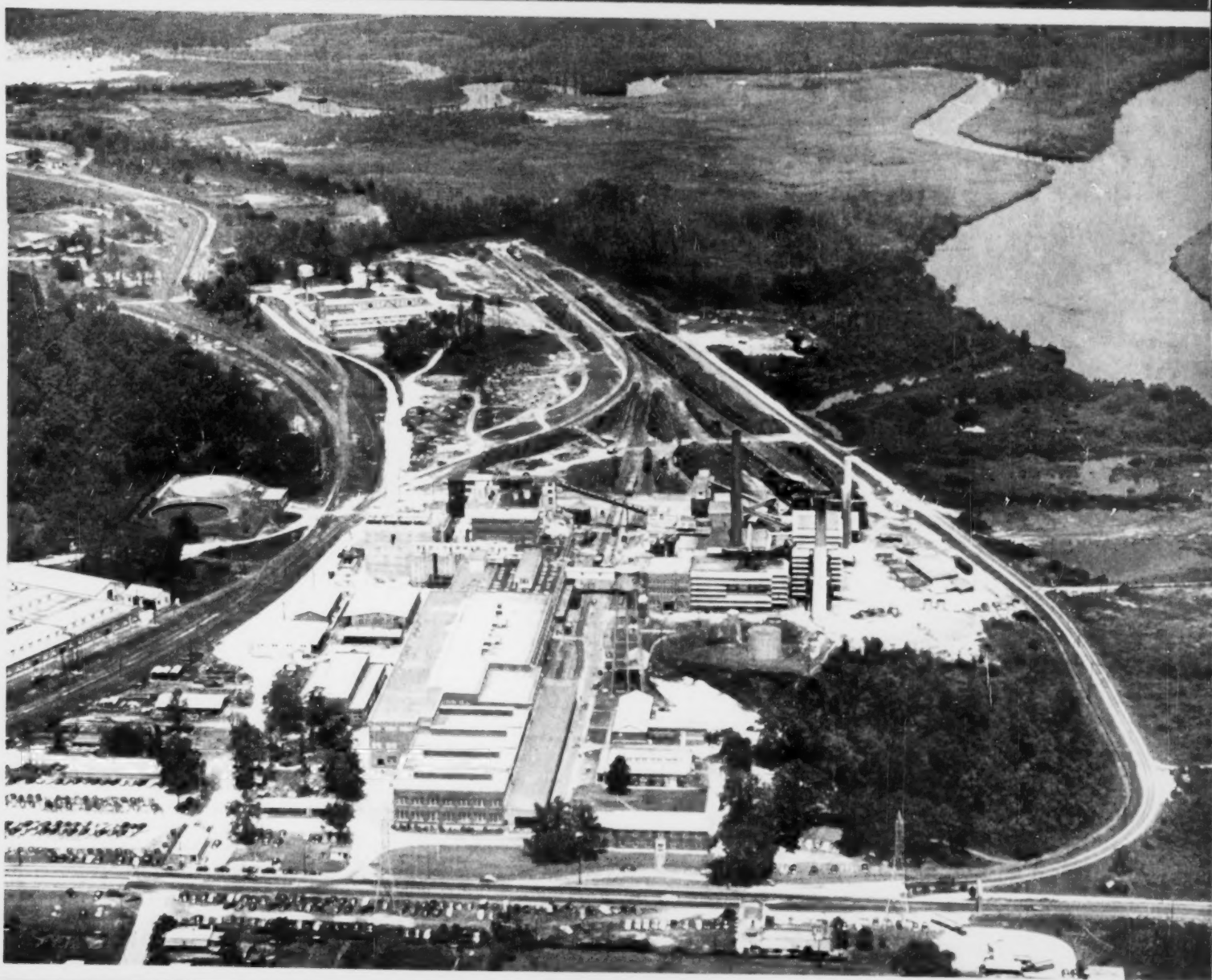


PULP & PAPER

The Cellulose Age

FEBRUARY 1953 VOL. 27-NO. 2



NEW AIR VIEW SHOWS HOLLINGSWORTH & WHITNEY CO. EXPANSION AT MOBILE, ALABAMA

Old Spanish Trail (now U. S. 90) in foreground; Chickasaw River in distance. Paper Mill is large building (center), with new Machine Room along left side. Pulp Mill, Power and Recovery in middle area. EXCLUSIVE STORY INSIDE.

ALSO IN THIS ISSUE—ANOTHER EXCLUSIVE—THE STORY OF WEYERHAEUSER'S NEW MILL

outstanding
member



of the basic violets....

METHYL VIOLET 4BPX CONC.

High in efficiency and low in cost, Calco's METHYL VIOLET 4BPX CONC. can be used as a base color or shading color for practically all blue, violet or gray papers. It is widely used to produce desired shades of violet or blue in board, kraft, tissue, sulphite and ground wood papers.

METHYL VIOLET 4BPX CONC. possesses excellent solubility and good dyeing properties, and it is well adapted for staining, dipping and coating.

Let your Calco representative introduce you to this low-cost, good worker, and to others in the extensive Calco line of efficient colors for paper.



AMERICAN Cyanamid COMPANY

CALCO CHEMICAL DIVISION, DYESTUFF DEPARTMENT
BOUND BROOK, NEW JERSEY

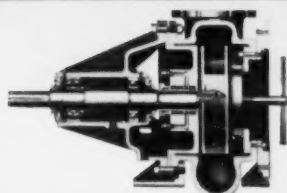
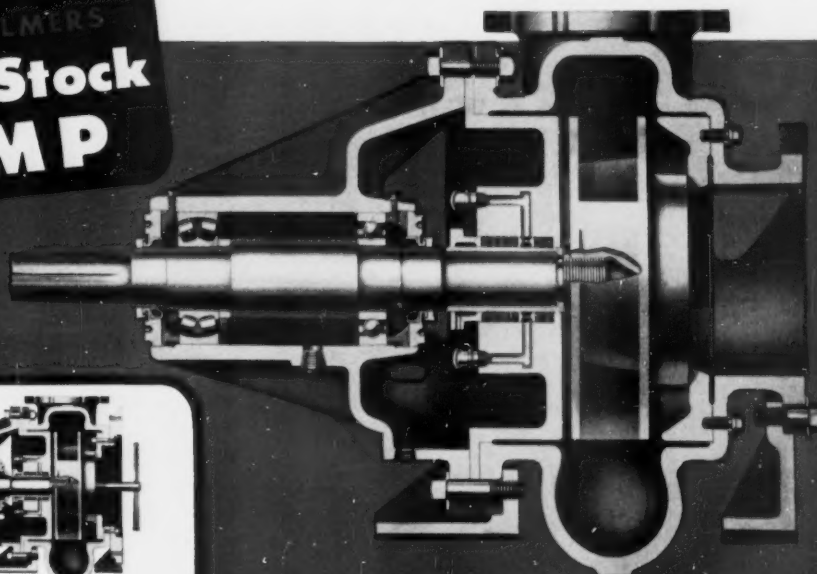
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One Pump

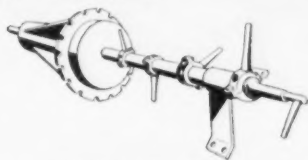
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All sizes up to 10 inch discharge available with 16 inch suction adapter. Decreases velocity at suction, decreases air binding troubles, handles heavier stock. Feeder vane assembly also available. It rotates with impeller and force feeds stock into impeller eye. Good for lumpy stock and plugging.



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A separate unit from the pump, the *Hi-Density* feeder is mounted in the stock chest at the pump suction. Action of the vanes when unit rotates moves stock into pump suction. PW Pump with *Hi-Density* feeder attachment has been used successfully to move stock as heavy as 8% bone dry consistence.

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Gives excellent service on most stock pumping applications. Non-clogging impeller, heavy duty bearings and shaft, available in corrosion-resistant materials, designed and built especially for paper stock service.

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Hi-Density is an Allis-Chalmers trademark.

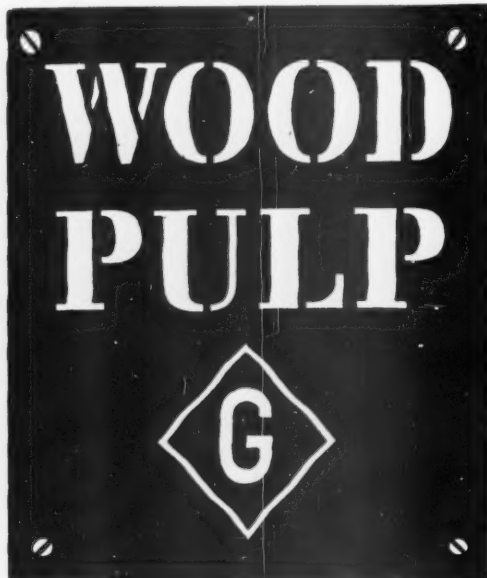
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ALLIS-CHALMERS



February 1953

Established 1886



"Great is the power of words."

HOMER

... and the fundamental truth remains that
"The pen is mightier than the sword."

Long after the last battles are fought and arms stacked, the force of the printed word will continue to be felt . . . The Pulp and Paper Industry in supplying the material to convey thoughts and ideas between man and man, nation and nation, is contributing strongly to the free world of today and the freer world of tomorrow.



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Production and
Management Magazine
of the Industry
Feb. 1953
Vol. 27—No. 2

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Emmett Street, Bristol, Connecticut

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71 Columbia St., Seattle 4, Washington
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1791 Howard St. (Room 308), Chicago 26, Ill. . ROgers Park 4-3420
370 Lexington Ave., New York 17, N.Y. MURrray Hill 3-9294
Royal Bank Bldg., Vancouver, B.C., Canada MARine 7287
3518 Dante St., New Orleans 18, La. AMherst 2762
Others—534 SW 3rd Av., Portland 4, Ore. (BEacon 6348); 121 2nd
St., San Francisco 5, Cal. (GA 1-5887); 815 Wilmer St., Los Angeles
17, Cal. (DUNKirk 9-1112).



SUBSCRIPTION RATES (for 12 monthly issues and WORLD REVIEW NUMBER, each year): United States, Canada, Mexico and other Pan American Union nations—one year, \$3.00; two years, \$5.00. Other countries—one year, \$4.00; two years, \$7.00. CHANGE OF ADDRESS: Please send notice of change of address as early as possible, and include both old and new addresses, plus zone no. at new address.

ADVERTISING: Complete plates only should be sent to New York office. Advertising copy, cuts, instructions, and all insertion orders should be sent to Seattle office.

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February 1953

"Deep in the Heart of Taxes"

At the Paper Trade Association convention in Chicago recently, President Don Leslie of Hammermill pointed out more taxes for federal, state and local government are being paid by pulp and paper companies than wages.

For Sawyer—A Bagasse-Newsprint Mill?

Now that Charles Sawyer is stepping down as secretary of commerce, we wonder if he will invest in one of those bagasse-newsprint mills he recommended so highly just a month before the election. He said it would cost less than woodpulp newsprint, was as good or better in some respects. It should keep him wealthy and happy.

Of course, the excitement stirred by his "experting" on bagasse was not so much over just what he said, as his seeming intentions toward present newsprint manufacturers. Of course, he got widespread free publicity from the buyers of newsprint.

Uses of bagasse for paper are definitely going to increase. Mr. Sawyer's own Commerce Department and other investigators see a big future for bagasse in quality paperboards and bleached pulps. Mr. Sawyer, knows, too, that other paper and pulp products are more lucrative than newsprint.

Of 13.8 million tons of bagasse annual supply in U. S., Hawaii and all the Americas, over 8 million is in Cuba, where, incidentally, there have been three bagasse pulp plant failures. But some day, we are sure, there will be a bagasse pulp plant in Cuba and for areas without suitable wood cellulose, they should thrive. It can be only secondary and supplementary in the U. S., where wood cellulose is king, from quality, quantity and economic standpoints.

Encouragement for Young Men

TAPPI sections are generally going in for the commendable work of stimulating papers by young technicians in the mills. The Pacific Coast TAPPI, oldest of all sections, carries on the Shibley award each year which was started many years ago. Delaware Valley TAPPI is holding its second annual competition for the Albert award, named for E. J. Albert, a founder, with John Macadam of National Vulcanized Fibre Co., as chairman.

Now comes the baby TAPPI group in the Southwest with their New Voices contest. Ray Hatch, research chief with Hudson Pulp & Paper, who years past was a frequent chairman for the Shibley contest on the West Coast, is chairman of judges for the South-eastern Section. G. C. Kimble, of Union Bag, Savannah, is official recipient of contest papers.

Such contests speed the development of younger men and encourage them greatly.

How to Draw Industry Men to Washington

We have heard a lot about the need for industry's best or near-best men going to Washington, D. C., to work in government bureaus. We recently talked to the top executive of one of the leading paper companies, who had a most important experience of this kind in Washington some years ago.

We think—in view of his experience and his present position—his comments on the proposition are worth considering, both in Washington and by this industry. This is approximately what he said:

"Why go to Washington if you are just going to be a rubber stamp? In the last administration some of our best people went down and they found they were only playing second fiddle to some professional bureaucrat. They also found they were forced to compromise time after time with their principles until they were backed into a corner of complete frustration.

"In my opinion, we should not send our best people down there and just have them twiddling their thumbs week after week and month after month.

"What we could do is send them down for a two weeks' course in finding their way around, learning the ropes. Then these top men could go back home to their jobs and be available for emergency service when they are really needed. This availability could be, say, for two, maybe three, years. Of course, there would have to be renewed training periods of these or other men from time to time."

Under present conditions and with controls slacking off, we believe this is a suggestion worthy of serious consideration.

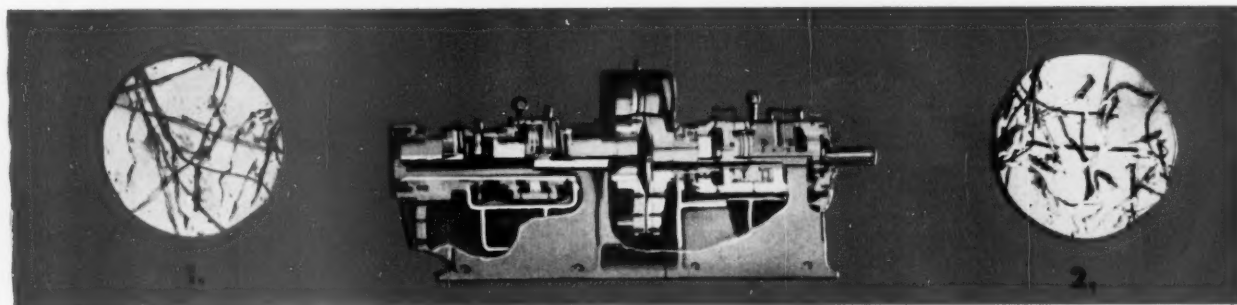
**more tonnage
reduced costs
improved quality
greater efficiency**

with the .



FIGURE 1. A typical Sutherland-treated pulp. Note the length of the fibrils, many of which are still attached to the parent fibers. Thoroughly beaten and refined, the fibers have, nevertheless, not been seriously weakened and chopped up in the process.

FIGURE 2. The effect produced by a Jordan on the same pulp at the same freeness. It can be seen that the fibers have been chopped up into segregated fines, impairing fiber quality and sacrificing many desirable qualities in the finished product.



.. SUTHERLAND REFINER

As a result of the Sutherland Refiner's controlled, continuous beating process you get a controlled fiber quality. This means:

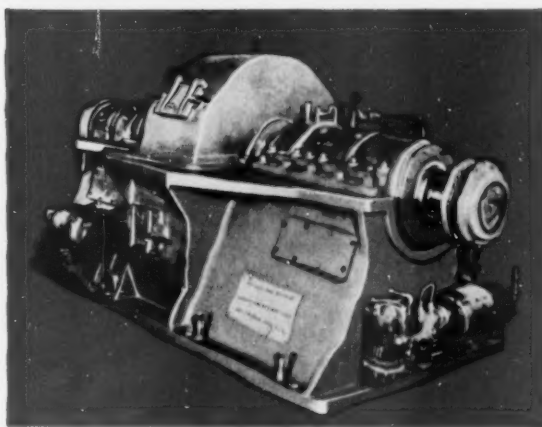
1. Day in and day out—the *right* fiber qualities to meet the required sheet specifications. *Improved quality. Dependable quality.*

WITH THESE ADDITIONAL ADVANTAGES...

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4. **HIGHER OPERATING EFFICIENCY**... Less down time, less rejected paper, and low floor space requirements result in more tons of



quality paper year in and year out
... increased efficiency ... and
greater profit.

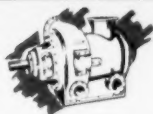
These are the advantages of Sutherland Refiners, advantages that are being demonstrated by more than 400 Sutherlands in mills throughout the country. Write for your copy of an article outlining one mill's experience. It will be furnished promptly... without obligation.

We're sure you'll find it *very* interesting—it *could* well be *your* experience.



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- designed to fit your needs

Conkey Long Tube Film Type Evaporator

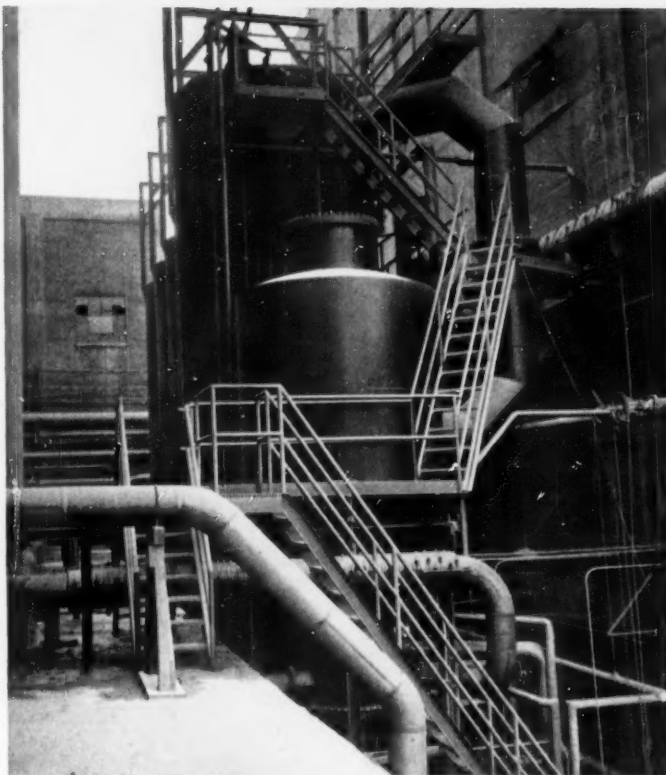
Conkey Long Tube Type Evaporators for the concentration of sulphate, soda and semi-chemical black liquors meet the economy and continuous automatic operation requirements of modern pulp mills.

Each Conkey Integral Type Evaporator Body is a unit construction comprising heating element, vapor body, and centrifugal type entrainment separator in a single self-supporting body. This integral body is completely assembled in our shops and shipped to the field as a unit, where it is set in place in one up-ending operation, thus reducing field assembly and erection to a bare minimum. Fewer joints for vacuum leakage, less maintenance and smaller floor space, and housing where required, are designed-in advantages.

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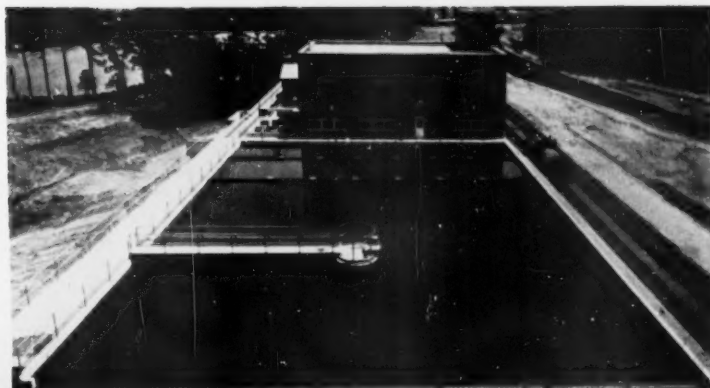
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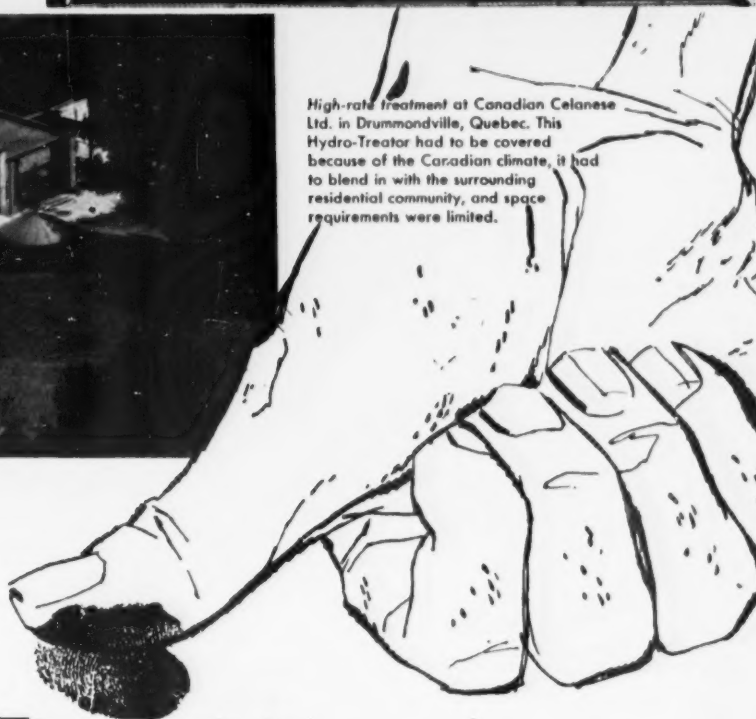
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Conventional treatment at Hollingsworth & Whitney Company's Chickasaw Mills, Mobile, Alabama. Here, adequate space and a warm climate permitted this Company to take advantage of the low chemical consumption and minimum operating requirements of the Flocculator-Squarex Clarifier combination.



High-rate treatment at Canadian Celanese Ltd. in Drummondville, Quebec. This Hydro-Treator had to be covered because of the Canadian climate, it had to blend in with the surrounding residential community, and space requirements were limited.



Just Like Fingerprints...

Some water treatment problems look alike — but aren't!

For instance, take the two Dorr installations shown here. Both are industrial water plants — both have approximately the same capacity — and both are installed primarily for color removal. Yet one uses high-rate treatment with a Dorrco Hydro-Treator, the other conventional treatment with a Dorrco Flocculator and Squarex Clarifier.

Why the difference? In this case all-important local

conditions. And to prove the equipment specified met these conditions . . . both Companies have recently doubled water plant capacity by exactly duplicating their existing units!

For a complete picture of the many types of Dorr water pre-treatment equipment, write for a copy of Bulletin No. 9141. The Dorr Company, Stamford, Connecticut.

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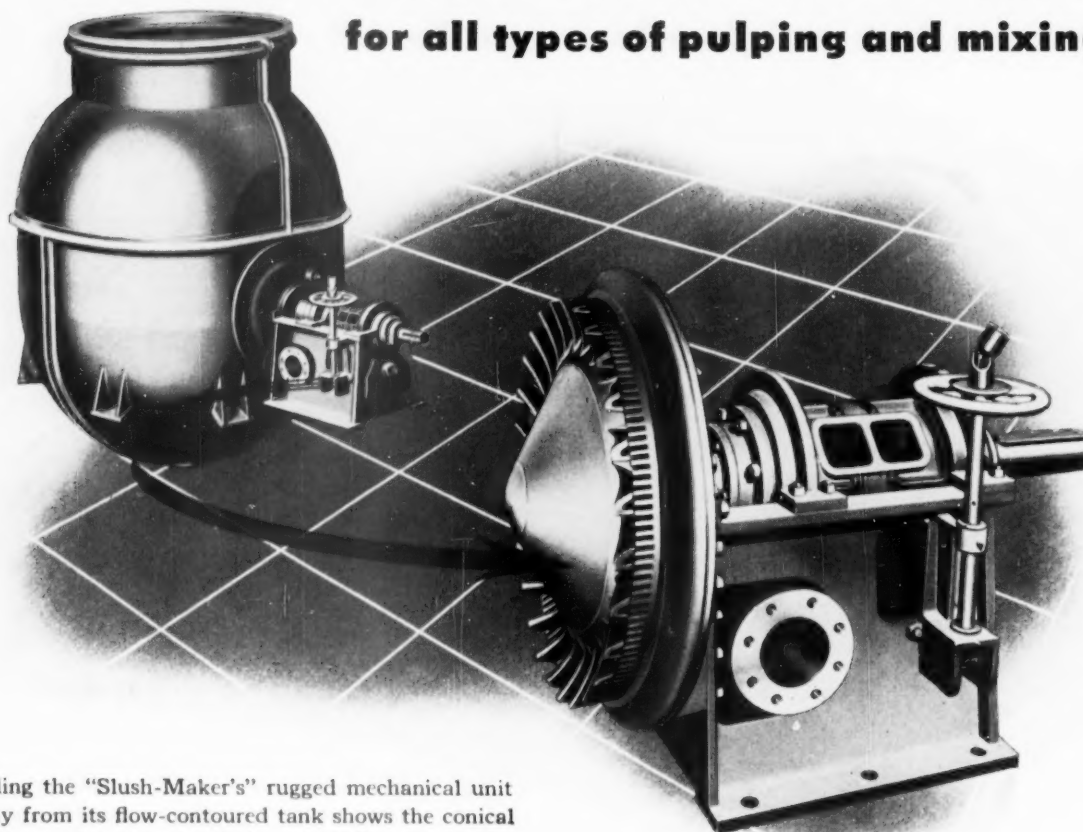
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Morden-ize

WITH A Morden "SLUSH-MAKER"

for all types of pulping and mixing



Pulling the "Slush-Maker's" rugged mechanical unit away from its flow-contoured tank shows the conical rotor's combination circulating, shredding and brushing blades, and bars on the stationary attritioning ring.

Rapid initial disintegration is given by the rotor's shredding blades.

The positive-flow circulation, across the rotor's face, continually directs the partially broken material at right angles against the bed plate ring.

A hand wheel controlled setting of the rotor assembly can bring the bars on the back of the rotor blades into a brushing contact with the bars on the bed plate ring. This bar-to-bar brushing, when required, will quickly and completely clear all flakes and bundles—even high wet strength—without damage to the fibers.

The Morden "Slush-Maker" also thoroughly mixes and brushes in color, size and other materials in a matter of seconds.

The "Slush-Maker's" side mounted rotor quickly and efficiently slushes full charges of pulp, broke or waste paper, either batch or continuous.

Let us know your slushing requirements and we will gladly analyze how you can Morden-ize your pulping and mixing advantageously.



Corbett Building,

Portland, Ore.

High-speed, high-hp power transmission is an old story for Silverstreak Silent Chain Drives

Slip-Proof...Slap-Proof...Shock-Proof

Silverstreak Silent Chain does the job with a single strand—eliminating the dangers that come with one or more belts in a group carrying more than their share of the load.

Husky Silverstreak metal link construction combines the ability to carry heavy overloads with the resilience that really absorbs shock.

"Pull" is distributed equally across Silverstreak Silent Chain. No possibility of uneven running—slapping.

Silverstreak Silent Chain doesn't rely on tension to get pulling power—chain meshes with teeth—gives POSITIVE drive—no chance for slip.

YES, for many years Link-Belt Silverstreak Silent Chain has been the accepted solution for the toughest transmission problems. These time-proven drives stand up under long years of high-speed, high-hp service . . . maintain their efficiency (over 98%) with virtually no attention.

Check the Silverstreak advantages shown here. See for yourself why so many concerns that must combine top transmission efficiency with unfailing dependability—standardize on Link-Belt Silverstreak Silent Chain Drives.

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February 1953



For 12 years, six 100-hp, 4700 f.p.m. individual Link-Belt Silverstreak Silent Chain and two-speed Herringbone Gear Drives at the Miami Daily News have served effectively, maintaining accurate register with minimum maintenance.

Sulphur



*Thousands of tons
mined daily,
but where does it all go?*

LOOK AROUND YOU and let your glance fall on any object. The chances are 1000 to 1 that sulphur played an important role in its manufacture, either as a component part of the finished product or as a processing element.

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Multiply this 0.1 pounds of sulphur by the thousands of magazines turned out every day and you'll get some idea of the tremendous tonnage of sulphur required for this single division of industry . . . the sulphite pulp manufacture.

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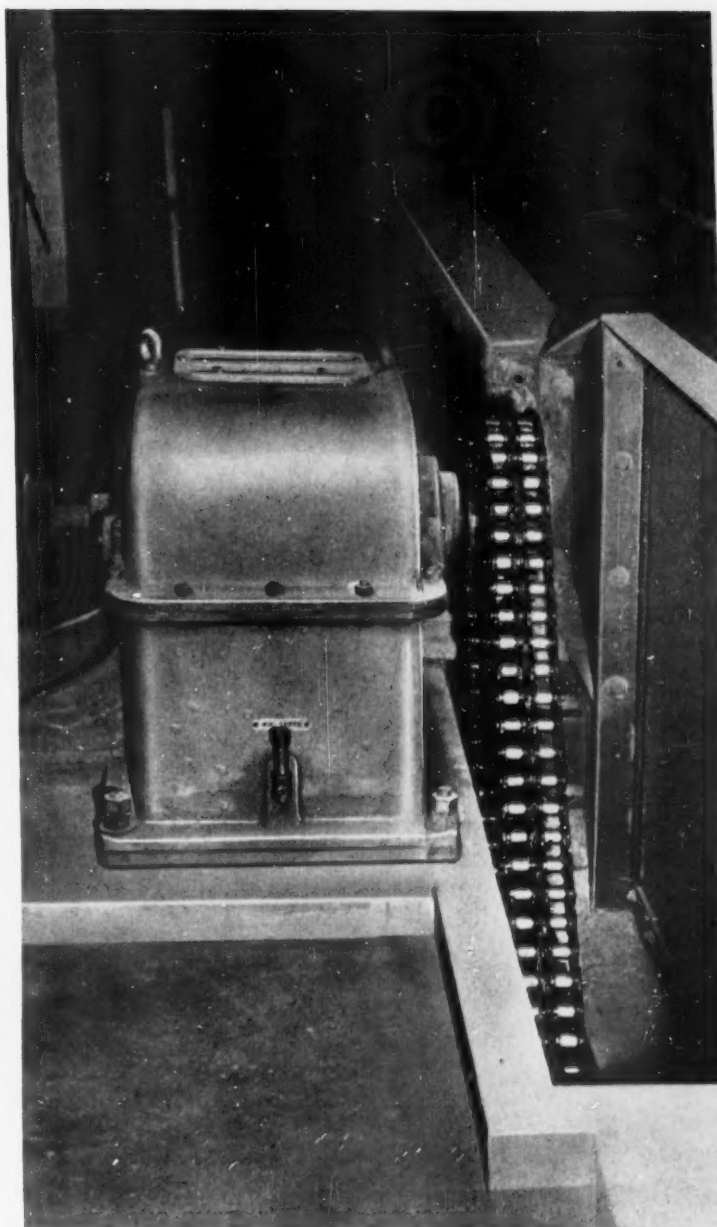
standardize on Baldwin-Rex Roller Chains

Mill after mill is standardizing on Baldwin-Rex Roller Chain for high-speed drives and power take-offs. Experience has shown that you can't beat this precision-built chain as a dependable low-cost method of power transmission.

Built of the finest finished steel to close tolerances with pins and bushings press fitted into the side plates, Baldwin-Rex Chains are designed for longest possible life under the toughest kind of service. They are available in a complete line from $\frac{1}{4}$ " to $2\frac{1}{2}$ " pitch in single, double, triple and quadruple strand.

Your Baldwin-Rex Field Sales Engineer is well qualified to help you select the exact size of Baldwin-Rex Roller Chain which will give most years of service at lowest overall cost. Or, if roller chain is not the best answer to your particular application, he'll show you how some other chain from the complete Chain Belt line will give you better service at lower cost. Write for Bulletin 52-2 on Baldwin "BA" Assembly Roller Chain—the chain that is *easy* to couple, uncouple and repair. Or call your nearest Baldwin-Rex Field Engineer. Baldwin-Duckworth Division, Chain Belt Company, 306 S. Plainfield St., Springfield, Mass.

This sturdy double strand of Baldwin-Rex Roller Chain is driving the feed rolls in the chipper chute. This chain is ideally suited for this heavy duty, grueling service.



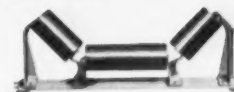
a few examples from the complete chain belt line



Rex H-Type Mill Chain for moderate speed, moderate load drive and conveyor service.



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Rex Wood Chip Idlers are sloped to 45° angles, forming deep trough for large capacity, less spillage.

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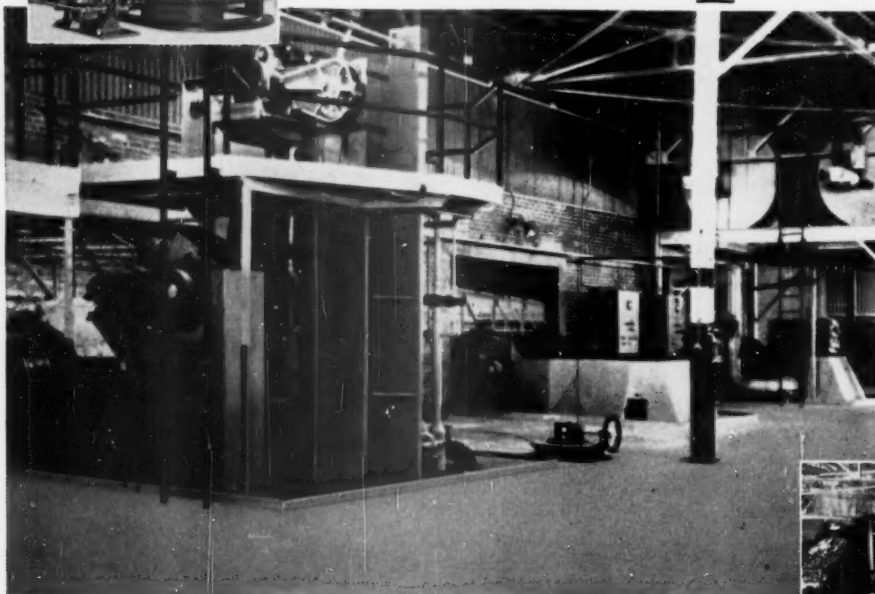
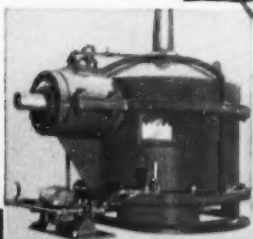
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Downingtown Fibrepulpers



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(Left) General view of three Downingtown Fibrepulpers. Note continuous junk and rag remover which is part of the Continuous Fibrepulper in left foreground.

(Below) Showing how scrap paper charge is fed on to conveyors to two Batch and one Continuous Downingtown Fibrepulpers requiring minimum labor.



NEW INSTALLATION AT CERTAIN-TEED PRODUCTS CORP., PRYOR, OKLA., INDICATES ADVANTAGES OF AN INTEGRATED PULPING SYSTEM

The use of Downingtown Continuous and Batch Fibrepulpers, as the illustrations on this page show, results in substantial savings in the handling of stock charges, reduces space requirements and speeds the production of properly prepared pulp for the stock chests. The Downingtown installation at Certain-teed Products Corp. is designed to provide stock for a top liner, filler and bottom liner on a Downingtown modernized seven cylinder board machine.

In addition to the advantages shown here, by specifying Downingtown

Fibrepulpers, efficiency and quality are increased through more uniform pulping, higher freeness, controlled fineness and faster pulping cycles.

DOWNINGTOWN MANUFACTURING CO.
DOWNINGTOWN, PA.



West Coast Representative:
John V. Roslund, Pacific Building,
Portland 4, Oregon

Manufactured in Canada by
Waterous Limited
Brantford, Ontario

DOWNINGTOWN

FIBREPULPERS

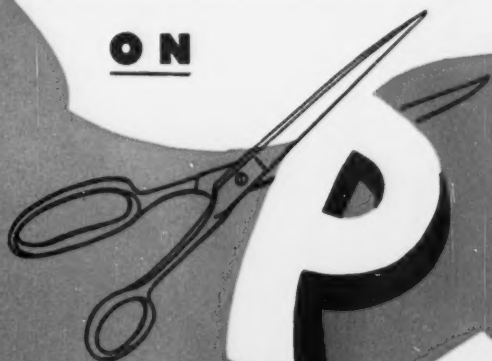
MODERNIZATION IS PROFITABLE

DESIGNERS AND BUILDERS OF PAPER, BOARD AND FELT MACHINES SINCE 1880

HERE'S ONE GOOD WAY

TO CUT COST

ON



PAPER DYES

Preliminary laboratory work by National Technical Service can eliminate costly guess work on mill runs by providing low-cost dye formulas and suggesting a suitable furnish for duplicating a "sample-to-match".

This will assure colors that have the proper fastness, physical and chemical properties for the characteristics required in the finished sheet. Laboratory analysis of fiber composition may suggest ways to provide a more economical furnish for the sheet to be duplicated.

Our laboratories are equipped and staffed to render practical help on paper making problems. We invite you to use National Technical Service. And, for your everyday needs, always specify

National Aniline Paper Dyes

NATIONAL ANILINE DIVISION

ALLIED CHEMICAL & DYE CORPORATION

40 RECTOR STREET, NEW YORK 6, N.Y.

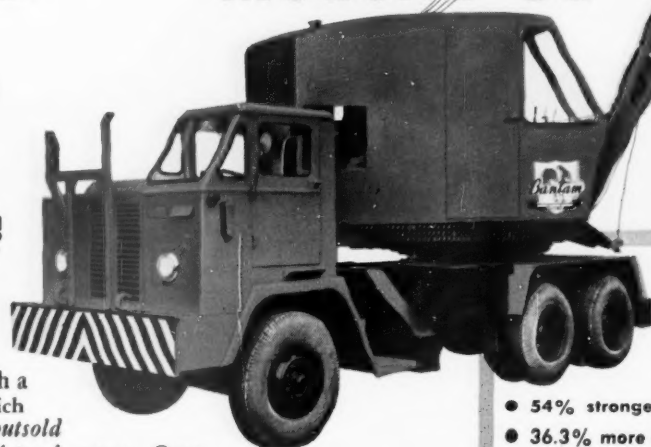
Boston Providence Philadelphia Chicago San Francisco
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NEW! HEAVY-DUTY BANTAM® Model T-35

**6-ton crane
still at
lowest price
in the industry!**

Seven years ago Schield Bantam revolutionized the shovel-crane industry — with a mobile, high-speed rig, which performed so well that it outsold all other makes and sizes of truck cranes. Over 3500 of those early Bantams are still serving efficiently around the world. Now Schield Bantam is proud to announce an even better machine — the husky new T-35 Bantam — with a conservative lifting capacity of 6 tons at 12'. Engineered for still wider range of work, with a host of new operating improvements, the versatile T-35 is ready to start cutting costs on your jobs **RIGHT NOW**. Ask your nearest Bantam Distributor for a convincing demonstration, or write today for free illustrated circular, containing all the facts you want to know about this new 3/8-yd. 6-ton Bantam, with 8 fast-change attachments.



Mounts on special Bantam crane carrier or any std. tandem or heavy-duty single axle truck. Trucks available through factory, or local Bantam Distributors.

BRIEF FACTS

- 54% stronger main frame
- 36.3% more drum clutch surface
- 45.5% more swing clutch surface
- 13% more hoist brake surface
- 4 hook rollers (instead of 3)
- 61.8% more operator visibility for crane work
- Larger shafts and anti-friction bearings throughout
- **FULLY CONVERTIBLE** to shovel, drag-line, clamshell, backhoe, magnet, grapple or pile driver.
- **LOW PRICE** Includes 25' crane boom, 12" block, 2 part line and add'l. counterweight. Truck and mtg. charge extra. (Price subject to change.)

Less than
\$6300⁰⁰
FOB Waverly, Iowa

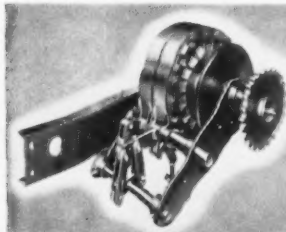
SB-CR-21



**SCHIELD
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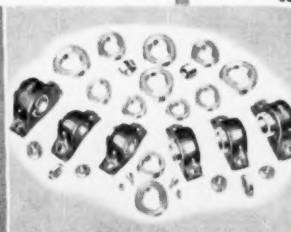
World's largest producer of truck-mounted cranes and excavators



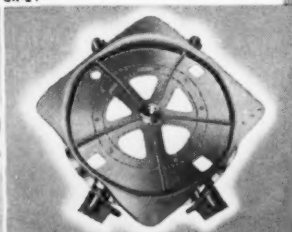
Power Boom Hoist Standard
Improved design with increased brake surface and extra bevel pinion let you "inch" loads up or down with precision accuracy.



Extra Large Clutches & Brakes
Internal expanding "snap-in" clutches with molded linings — 140 sq.in. of drum clutch surface, 160.5 sq.in. brake contact.

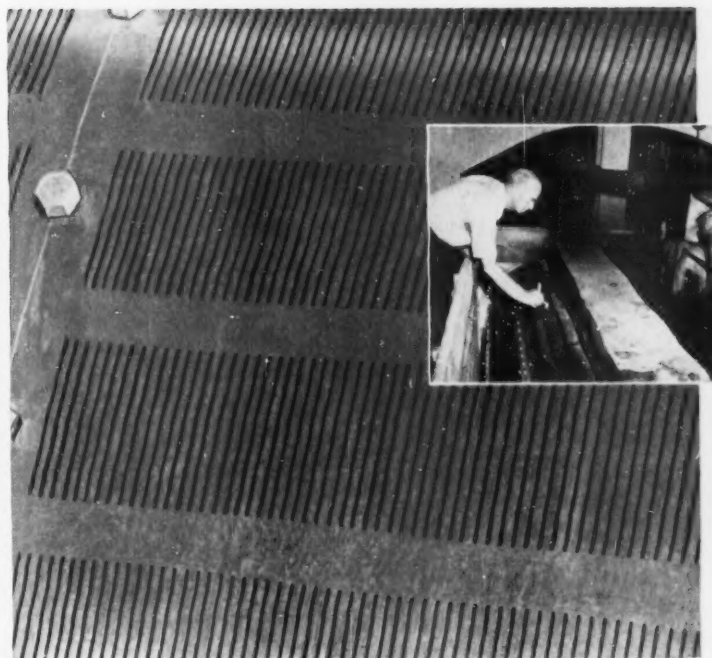


Full Power Advantages. Engine power transmitted smoothly through main machinery to work points by machine-cut gears and anti-friction bearings.



Rugged Turntable Base. Wider 4-point mounting with 4 over-size trunnion rollers and 4 hook rollers give the T-35 extra strength and stability.

One after another, the slots in this Inconel screen plate get a regular 30-day checkup at Parsons Paper Company. After screening rag pulp for 3 years, the slots still retain their original .014" width. Note the excellent condition of the Inconel plate, and the uniformity of the slots. Fabrication was handled by the Union Screen Plate Co., Fitchburg, Mass.



Inconel screen plates show no sign of corrosion after 3 years' use!

Until 1949, the Parsons Paper Company, in Holyoke, Mass., had to scrap their screen plates after using them three years.

Corrosive mill stocks had eaten away at the slots, making them half again as large as they had been originally. Consequently, big fiber bundles and dirt slipped right through the openings. And the reject pile around the sorting table began to grow.

There was also another problem — an annoying one caused by string build-up of cotton fibers. When corroded slot edges and surfaces built up accumulations, backtenders had to spend costly time clearing them off the plates to maintain screen capacity.

A change in screen plate material was suggested to Parsons by the Union Screen Plate Company. As a result, 13 Bird screen plates of Inconel were installed.

It was a good move. First, because Inconel's corrosion resistance promised that slot size would stay unchanged. Second, because Inconel's smooth surfaces offered no place where cotton fibres could cling.

Most important, however, is the way these Inconel plates are standing up in corrosive service. Once a month, ever since 1949, the plates have been inspected and the slot size measured. But the Parsons people tell us they

might just as well have saved this effort. The slots are still the same size as they were three years ago. "In fact," says Parsons' Machine Supt., Dave Stalker, "these Inconel plates look almost like new, and provide the same excellent screening as they did when we first got them."

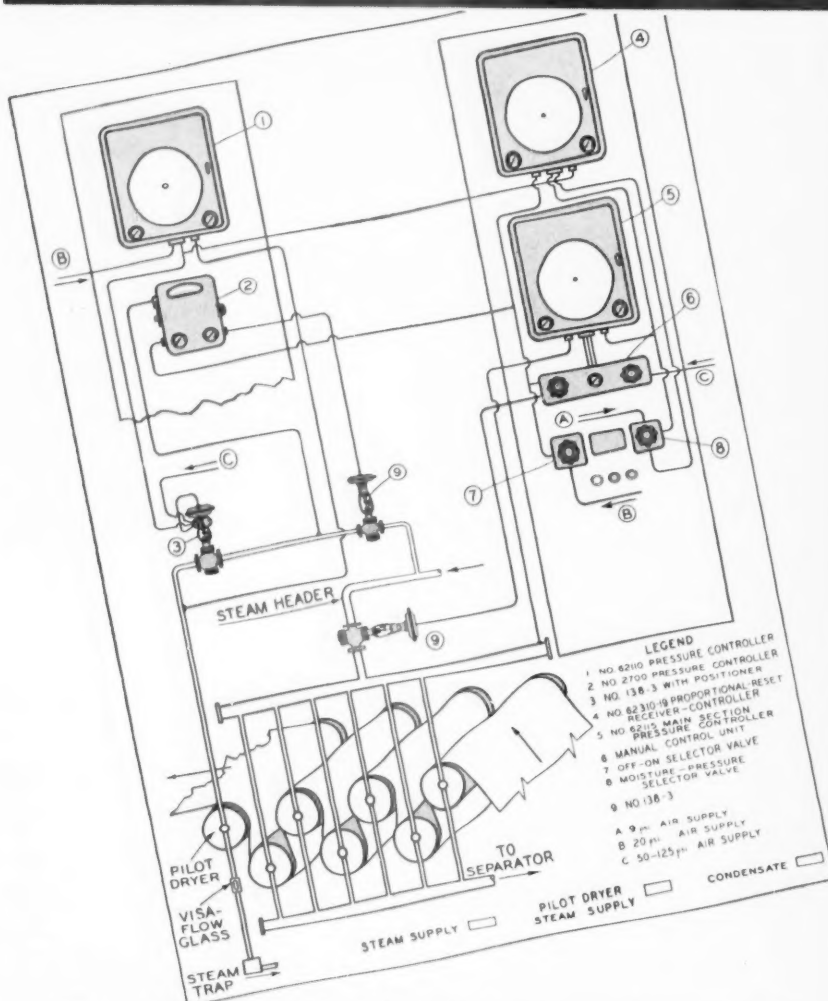
Next time you need screening equipment, think what Inconel can mean to you... in longer service life, lower operating and maintenance costs, or lighter weight construction. Consult your Distributor of Inco Nickel Alloys for the latest information on their availability from warehouse and mill. Remember, too — it always helps to anticipate your requirements well in advance. THE INTERNATIONAL NICKEL COMPANY, INC., 67 Wall Street, New York 5, N. Y.

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"S"® MONEL • NICKEL • LOW CARBON NICKEL • DURANICKEL®
INCONEL® • INCONEL "X"® • INCOLOY® • NIMONICS®**



Versatile NEW MOISTURE CONTROL SYSTEM



Can be used with all types of paper!
Any speed of machine!

Extremely sensitive yet stable, this new Masoneilan Moisture Control System offers many unique advantages for improved paper-making:

Maintains average moisture content across the sheet. Does not rely on 'spot' measurements.

Controls moisture percentage at one or several points along machine.

Can be used for any machine speed — any machine width.

Is suitable for any grade or weight of paper.

Is flexible — system may be applied to one or more sections.

Provides pneumatic individual break control for each control location.

Continuously records operating steam pressures, moisture deviation, time and duration of breaks.

Complete information will be furnished on request.

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CONTROLS MOISTURE CONTENT AT...

- Breaker Roll
- Single or Multiple Dryer Sections
- Size Tub
- Coating Press
- Reel



PULP & PAPER

**Umpty-thousand
tons of
HOOKER CAUSTIC**

Coming up!

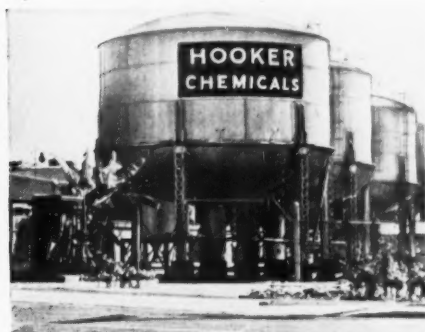


CONVEYORS feed salt to brine tanks for caustic soda and chlorine production in Hooker electrolytic cells.

We will produce more caustic soda this year than ever before in our history.

This would be meaningless, except that it expresses our belief in the future of the chemical industry—and our readiness to keep growing with it as one of your major suppliers of chemical raw materials and intermediates.

Today, more than ever, you can count on Hooker for dependable supplies of caustic soda, chlorine and many other industrial chemicals.



CAUSTIC SODA DISTRIBUTING STATION

5

Reasons for Specifying HOOKER Caustic

- 1 Large-tonnage production**—The biggest in nearly 50 years—means dependability of supply for you.
- 2 Quality caustic in the form to meet your needs**—50% and 73% liquid; flake; solid. Drums, tank cars, barges. An impressive background of experience in serving large users of caustic.
- 3 Technical service**—Willing, competent help in safe handling and use of caustic in your process. Experience gained from serving 30 industries is at your disposal.
- 4 Fast, dependable deliveries**—More facilities than ever before for getting caustic to you, on schedule.
- 5 If you use caustic in l/c/l quantities**, you can now purchase caustic from a Hooker plant, warehouse or jobber near you. Write us for name and address of your nearest Hooker jobber.

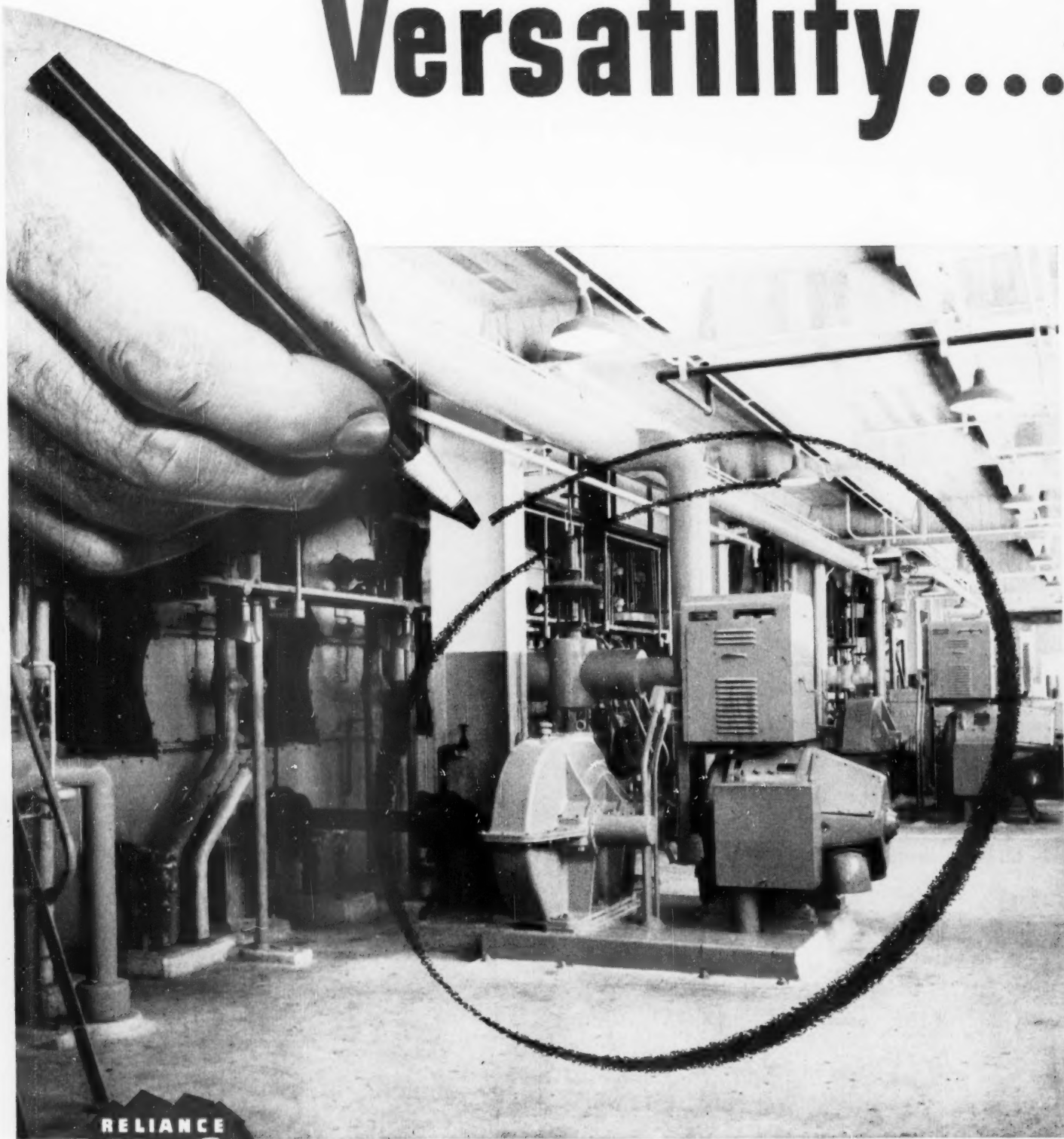
FOR ANALYSES, PRICES, DELIVERY INFORMATION, write Hooker Electrochemical Company, 2 Union Street, Niagara Falls, N. Y.—or phone your nearest Hooker sales office.

From the Salt of the Earth

HOOKER ELECTROCHEMICAL COMPANY
NIAGARA FALLS • TACOMA • NEW YORK • CHICAGO • LOS ANGELES



Versatility....



Individual sections are driven by separate adjustable-speed motors, ranging in size from 20 through 350 hp. Speed settings and adjustments are made on the master control, which provides a reference speed to govern over-all speed of the machine. A Reliance Section Inter-

lock Regulator on each section motor maintains speed of the section at a set relationship to this reference speed. This provides stability and precision of draw between sections, uniform over-all speed, and the ability to make wide speed changes on the machine without a break.

• and top performance right from the start

Reliance 17-Section Electric Paper-Machine Drive delivers expected tonnage in 2 days for Hollingsworth and Whitney

Within 2 days of start-up, Hollingsworth and Whitney Company was producing expected tonnage on this 174-inch Four-drinier, driven and controlled by Reliance sectional electric paper-machine drive, at its newly expanded Mobile, Alabama mill. Thus Reliance has again proven that its practice of completely engineering all drives before shipment provides equipment ready for full production.

Versatility—and Top Performance

This sectional electric paper-machine drive combines Reliance electronic controls with Reliance Section Interlock Regulators. The system provides precision draw control between sections at speeds from 200 to 1500 fpm., for 216-lb. to 30-lb. basic weight range. The drive provides completely stable operation at all speeds for all grades of paper.

Let Reliance Help You Plan

Reliance sectional paper-machine drives are planned to suit the individual application. As demonstrated at Hollingsworth and Whitney—and numerous other mills—they are engineered *right*, and swing into full production in record time. They are equally effective on the largest board machines, on wide, high-speed news machines, on fine-paper machines, or on Yankee tissue machines. The versatile Reliance Section Interlock Regulator with electronic control makes Reliance-engineered drives readily adaptable to all practices and conditions in the operation of any machine.

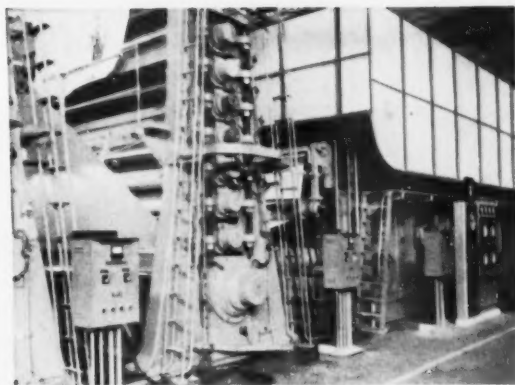
When you consider purchase of a new machine—or change-over to a sectional drive on your present machine—it will pay you to call Reliance. Nearly 50 years of experience in engineering coordinated motor drives is at your service. D-1430

Sales Representatives in Principal Cities

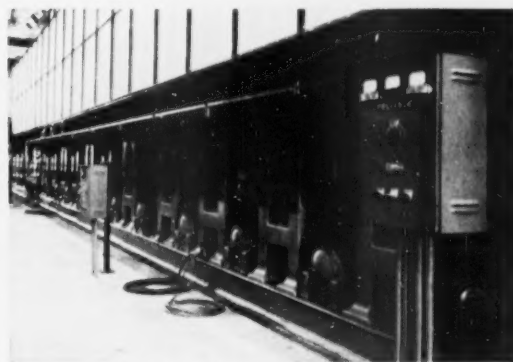
RELIANCE **ELECTRIC AND
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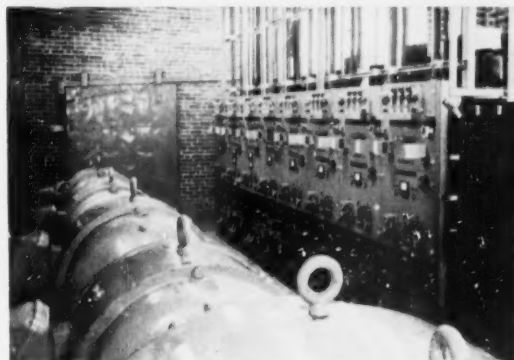
Cleveland 10, Ohio



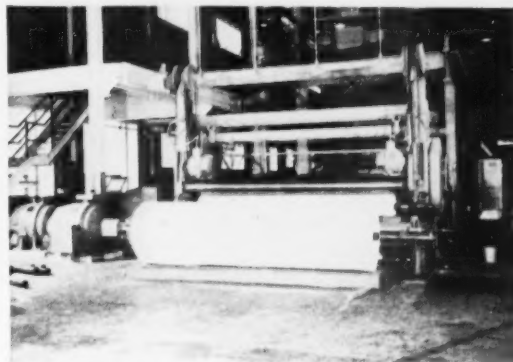
On the three eight-roll calender stacks, the Reliance control provides a new and very effective method of taking up slack without disturbing the draw setting through this section. Typical operators' control stations appear in foreground.



Master control station. Micrometer dial turns through 40 revolutions, each calibrated into 100 divisions, permitting accurate presetting of speeds within less than $\frac{1}{2}$ fpm.



Reliance Multiple Generator Set is conveniently located in separate room beneath the drive area. Each generator serves one machine section. Electronic and magnetic controls grouped in panels at right afford flexibility of individual section operation and adjustment.



Reliance V*S Drive enables the heavy-duty rewinder to handle various weights of kraft papers at speeds through 4000 fpm. Each of the two winding drums is driven by a separate 150-hp motor. Slitters also are driven by separate motors. Back-stand drag generator and unwind motor are VSA-controlled to provide constant tension.



For the **PAPER INDUSTRY**



Cotton Rolls

Interleaved Rolls

Paper Rolls

Embossing Rolls

Chilled Iron Rolls

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Mullen Testers

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For "sound economy,"
standardize on
POWELL VALVES

By installing Powell Valves in all your lines, you can minimize maintenance and "down time," eliminate the confusion and waste incurred in stocking spare valves and parts of different makes, and avoid the costly results of misapplication, or using valves in services for which they are not specifically adapted.

The Wm. Powell Company
Cincinnati 22, Ohio

Fig. 2608, 100-pound
Bronze Globe Throttling
Valve. A Powell Valve
that permits full flow
through the seat when
wide open. Has special
bronze stem and stain-
less steel disc and seat.

POWELL

BRONZE, IRON, STEEL AND CORROSION-RESISTING VALVES



HERE'S HOW

THE FULTON ROLL PRESS

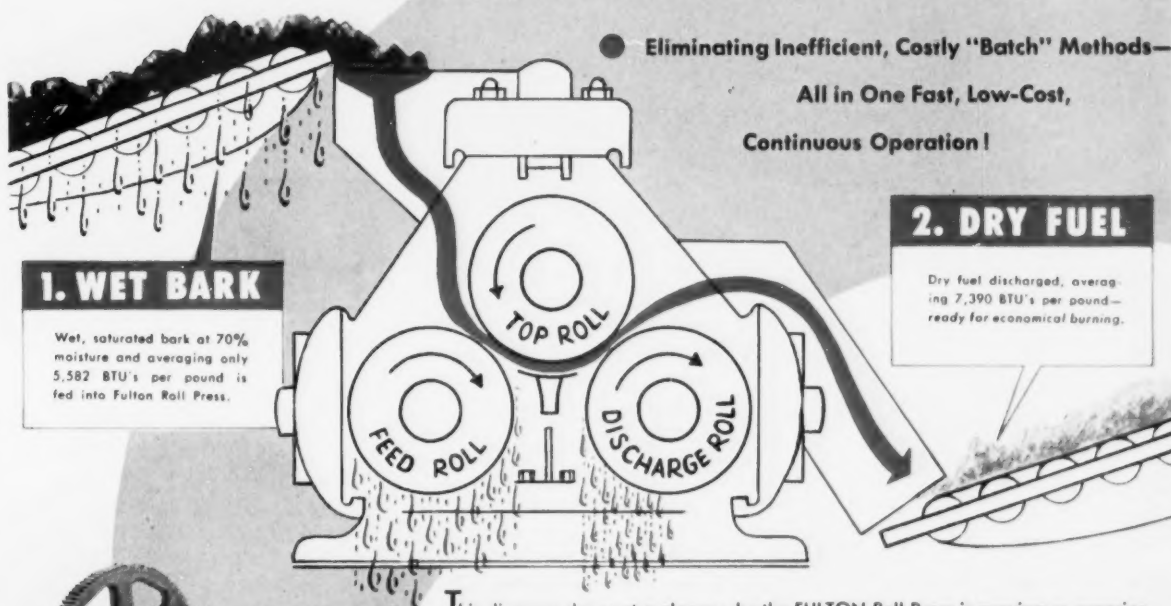
Converts Wet Bark to Dry Fuel

by: ● Reducing BARK to as low as 47% Moisture, ready for instant burning!

● Adding millions of BTU's Hourly to Bark Fuel Value!

● Eliminating Inefficient, Costly "Batch" Methods—

All in One Fast, Low-Cost,
Continuous Operation!



1. WET BARK

Wet, saturated bark at 70% moisture and averaging only 5,582 BTU's per pound is fed into Fulton Roll Press.

2. DRY FUEL

Dry fuel discharged, averaging 7,390 BTU's per pound—ready for economical burning.

This diagram shows at a glance why the FULTON Roll Press is proving so superior to obsolete "batch" methods of dewatering bark and other mill refuse. Material passes from hopper between the grooved top and feed rolls under hydraulic pressure. The combination of pressure and shredding action of the roll grooves reduces the material and expresses the water. The same process is repeated as the material passes over the turnplate and between the top and discharge rolls. This continuous "double squeeze" accounts for the amazing efficiency of the FULTON Roll Press in converting all types of wet waste woods into profitable fuel.

Represented by
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2303 N. Randolph Ave. Portland 12, Oregon
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P. O. Box 1085, Pensacola, Fla.

FULTON

FULTON IRON WORKS COMPANY
SAINT LOUIS 14, MISSOURI

MAKERS OF FINE PROCESSING AND EXTRACTION EQUIPMENT SINCE 1852

May we **PROVE IT** on **YOUR** material?

Mail Coupon Now!

for full details and
FREE TEST RUN OF MATERIALS YOU WANT TO PROCESS

Fulton Iron Works Company, Dept. 252
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Please send full details of FULTON ROLL PRESS

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In The Paper Industry
WESTERN PRECIPITATION
COTTRELL EXPERIENCE IS UNSURPASSED

— Because Western Precipitation pioneered the first COTTRELL Installation in a Paper Plant!



In the design and installation of COTTRELL Electrical Recovery equipment there is no substitute for experience. And it is important to remember that the Western Precipitation organization not only pioneered the first successful COTTRELL installation made in any industry, but also pioneered the first COTTRELL installation made in the paper industry.

This installation, made over 30 years ago, blazed the trail for use of COTTRELL equipment for recovering dust and fume from black liquor furnace gases in modern paper plant operations.

Let us show you how Western Precipitation's consistent leadership in COTTRELL "know-how" assures you the most modern advancements and the most economical operations in your electrical recovery operations.

◀ Western Precipitation knows COTTRELL equipment as no other organization does, having pioneered the first commercial application of COTTRELL equipment made in any industry!

◀ Western Precipitation knows COTTRELL applications in paper operations because its widespread experience in this field dates from the pioneer COTTRELL installation made in the paper industry!

◀ Western Precipitation is able to give you an unbiased recommendation on your recovery requirements, for in addition to leadership in the electrical recovery field—Western Precipitation also leads in the mechanical recovery field with its widely-known MULTICLONE Mechanical Collectors. Western Precipitation installed the first MgO plant.

Whether your operations call for electrical recovery . . . or mechanical recovery . . . or both working in combination—Western Precipitation can design and install the type best suited to your needs—under one guarantee and one responsibility!

Write for descriptive literature on Western Precipitation products and experience.

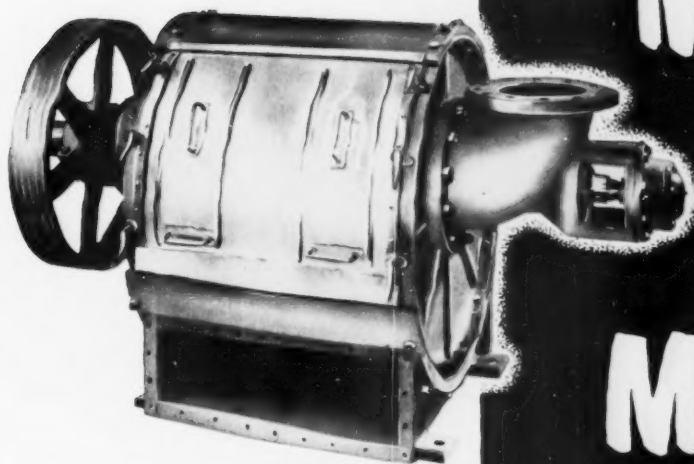
Regardless of the size or nature of your dust or fume recovery application, let us study your requirements and make an unbiased recommendation based on over 30 years experience in the paper industry. Call, write or wire our office nearest you.

Except for its wholly-owned subsidiaries, The Precipitation Corporation of Canada and The International Precipitation Corporation, Western Precipitation Corporation is not affiliated, either directly or indirectly, with any other organization in the electrical or mechanical recovery field.

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 PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL



The "Junior" Screen . . . smallest of *three* units producing from 35 to 150 tons per day, respectively.

Money Saving Midgets

Cowan Centrifugal Pulp Screens by **APPLETON MACHINE COMPANY**

Added efficiency, greater economy are the watchwords for *Appleton Machine Company's* junior versions of the standard Mark "A" Cowan Centrifugal Pulp Screen, acknowledged as outstanding in its field.

The Mark "E" Screen is a half-sized model of the standard Mark "A", conservatively rated at a capacity of 2400 U.S.G.P.M. accepted stock. 50 h.p. is required to operate the Mark "E", but its drive is designed to accommodate a 60 h.p. motor, wherever needed. The Mark "E" is particularly advantageous in smaller mills, or as a supplementary screening unit. Also, installing two Mark "E" Screens—instead of a single larger machine—provides a definite safety factor in case of breakdown.

The "Junior" Screen is a quarter-sized model of the big Mark "A", with a rated capacity of 1400 U.S.G.P.M. accepted stock. 25 h.p. operates the "Junior" Screen, but it will handle motors up to 40 h.p. Greatest applications are as secondary screening units, and

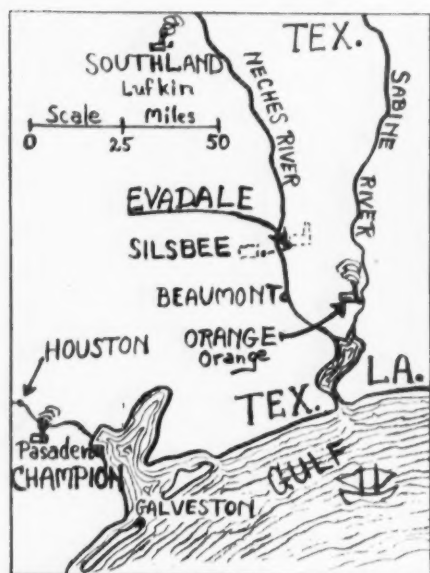
as a primary screen for mills producing a variety of pulp grades which require a system made up of small, separate units.

Performance of these two Cowan Screens is comparable in every way to that of the standard Mark "A" Screen . . . the same high consistency screening . . . low percent rejects . . . good fiber separation . . . low shower dilution pressure . . . top hydraulic efficiency. Typically sound *Appleton Machine* construction plus a protective coating tailored to fit your needs *complete* your assurance of long-time satisfaction.



CUSTOM-BUILDERS OF PULP & PAPER MILL MACHINES
WINDERS • FINISHING ROLLS • REWINDERS

MORE ABOUT THE NEW TEXAS MILL



SITE OF NEW HOUSTON OIL-TIME INC. 250 Ton Pulp and Paper Mill at EVADALE, Texas, is shown on this map. Just across Neches River is SILSBEE, site of big new Kirby Sawmill and Chip Plant. The mills of Champion Paper & Fibre Co., Pasadena, Tex.; Southland Paper Mills, Lufkin, Tex., and Orange Pulp & Paper Mills, Orange, Tex., are shown. Another new mill, for dissolving pulp, is projected for Northern Louisiana by Olin Industries.

Ground is to be broken at Evadale, Texas, in about April for a new 250-ton bleached kraft pulp, paper and food container board mill planned by the East Texas Pulp & Paper Co.

PULP & PAPER is able to report some further details regarding this new company and venture, first reported in last month's issue of this magazine.

The mill expects to have some quantity of bleached kraft pulp for sale for the first three or four years after the mill starts up. The infant company is shooting for a start-up date by January 1955.

The vast timber holdings of Houston Oil Co. of Texas, over half a million acres held by a subsidiary, the Southwestern Settlement & Development Co., as well as leftover and waste wood from new nearby operations of the big Kirby Lumber Corp., are the solid foundations upon which the new enterprise is being built.

Harold Decker, president of Houston Oil Co. of Texas, is temporarily the president also of the new East Texas Pulp & Paper Co., formed by Houston Oil and Time, Inc., publishers of Time, Life, Fortune and Architectural Forum.

Mr. Decker told PULP & PAPER, however, his election as president of the new company was "only a temporary arrangement" until such a time as permanent management personnel is secured.

It was learned that kraft paper for the mill will be (at least in part) for the fast-growing milk bottle, food container and frozen food fields, as well as for business forms, file folders, etc.

KEY FIGURES PLANNING EAST TEXAS PULP & PAPER CO.



THREE OF THE EIGHT DIRECTORS of the new East Texas Pulp & Paper Co. are shown here with the Evadale Mill's newly appointed Consulting Engineer. They are, left to right:

RICHARD A. McDONALD, of Oakland, Calif., a Director and key man in overall planning and building. He was former Exec. Vice Pres. of Crown Zellerbach Corp., and remains as a C-Z Director.

CHARLES L. STILLMAN, of New York, Executive Vice Pres. and Treasurer of Time, Inc., and ac-

tive leader in the East Texas project, of which he is Director.

DAVID W. BRUMBAUGH, of New York, Vice Pres. and Secretary of Time, Inc., and also a Director of the East Texas company.

HOWARD A. SIMONS, of Vancouver, B. C., appointed Consulting Engineer for the East Texas project. He designed and engineered the new McMillan-Bloedel kraft pulp mills and Elk Falls newsprint mill in British Columbia.

Therefore, the question arose as to fundamental reasons for the interest of Time and Life publishers. They are large purchasers of coated printing paper and several mills supply Time and Life. There would be the possibility that the Evadale investment would indirectly facilitate coated and printing paper supply elsewhere, however presently there are no plans to make any coated paper at Evadale.

Charles L. Stillman, as executive vice president for manufacturing, has been most active in the Time organization in working out plans for the mill with the Houston Oil people.

Some corporate planning took place in New York in December where the Texans—Mr. Decker; A. G. McNeese, his assistant, and W. E. Merren, of the Houston Oil subsidiary, Southwestern Settlement & Development Co.—met with Mr. Stillman and David W. Brumbaugh, another Time vice president. No announcement was forthcoming from this meeting. The Houston Oil company offices are in the Petroleum Building in Houston.

Financing of the new company is by Northwest Mutual Life Insurance and Chase National Bank.

Richard A. McDonald, a longtime top officer of Crown Zellerbach Corp., who just recently retired under the company's retirement plan, is another director of the new company. Artemus Gates of Time; Foster Parker of Houston Oil, and Gordon Wattles, president of Webster Tobacco Co., who is Houston Oil director, are the remaining three directors of East Texas Pulp & Paper.

Mr. McDonald, whose home is in Oakland, Calif., and who returned there in December after stepping down as administrator of the National Production Authority in Washington, D.C., is the key man in the planning and building arrange-

ments for the new mill. He is, of course, the most experienced of the directors in the paper industry—in fact, the only one who has been directly connected. He will appoint top personnel, mill manager, plant engineer, etc., said the Time officials.

He continues as a director of Crown Z, which he joined in 1928 and has served as its executive vice president as well as chairman of its executive committee, and also has been a director of Fibreboard Products Inc. He explained that he, personally, and not the Crown Zellerbach organization in any way whatever, is interested in the East Texas venture.

From 1920 to 1928, Mr. Donald was vice president and then president of Western Waxed Paper Co., Portland, Ore.

Consulting engineer for the new Evadale mill is Howard Simons, of Vancouver, B.C., whose late father was a famed paper mill builder in Chicago years ago. Howard Simons has made a name in British Columbia building kraft mills and the Elk Falls newsprint mill and, in past years, did work for Powell River Co.

Mr. Simons will set up and staff an engineering office in Texas.

Evadale is 20 miles north of Beaumont. One time Henry Kaiser considered building a paper mill here. The new Kirby sawmill at nearby Silsbee will supply Evadale with chips.

About the Time Directors

Mr. Stillman is in overall charge of production of Time, Life, Fortune and House and Home and Architectural Forum, as well as the financial affairs of the corporation. Under his direction, Time Inc., working closely with printers, paper mills and manufacturers of presses, has conducted experiments with new methods of paper making and printing which have

(Continued on page 118)

Company Communication

PAPER WEEK REPORT REVEALS PROGRESS

Progress of the Community Relations Committee of the American Paper & Pulp Association since its formation in 1951 has been far beyond the expectations of the industry and its founding fathers.

"Company Communications"—community relations techniques—will be a major subject of discussion for management men when they gather in the third week of February in the Waldorf-Astoria. PULP & PAPER has made a survey of the progress to date in their development. This is what APPA will hear about in New York. Some typical illustrations they will see in an exhibit of progress are also shown with this article.

Since its inception, industry groups have gone into action in six sections of the country. A seventh will be activated soon. The dominating APPA two-fold policy, adhered to right from the outset, is (1) that the group or statewide organizations are only for the purpose of a clearing house for ideas, for stimulating and exchanging ideas, while (2) the actual programs should be carried out individually on mill and town level in their own distinctive ways.

Here is the report to date on group activities:

1. *Wisconsin.* This was the first group (see Apr. 1951 article in PULP & PAPER on "Wisconsin Workshops"). Its dual executive and activities committees organization has been a model for other sections of the country. Nathan Bergstrom, president of Bergstrom Paper, is chairman of the APPA committee, and also chairmanned the Wisconsin group which held its first meetings in 1950. This group has quite a story of achievement to tell. It has now brought Northern Michigan into its picture, developing a more effective overall program.

2. *Northeast.* The activities and executive committee of this group (Maine, New Hampshire and Vermont) have met several times and a general meeting was held Jan. 15 in Portland, Me., to discuss: "The Rule of the Foreman in Community Relations."

3. *Southern New England.* A meeting in December of the steering committee for this group resulted in selection of a topic, "Employee Economic Education," for a first industry discussion to be held in March.

4. *Ohio.* This group operates with an executive committee and an activities committee. Meetings of the activities committee have resulted in the scheduling in late January for an industry meeting to discuss: "Open Houses and Guided Tours."

5. *Southern Michigan.* This group has worked out an experimental arrangement with Western Michigan College paper school whereby someone from the school



EXAMPLES OF OTHER LITERATURE turned out by International Paper Co. are shown in lower group. There are three comic books to promote tree planting and fire protection. Others are generally educational regarding forest practice and the company.

staff will act as coordinating executive for the APPA community relations group. This will provide a place for meetings (Kalamazoo) and someone to direct the activities. The first meeting is still to be scheduled under this new arrangement.

6. *New York State.* An industry meeting was held in September, and a nominating committee for officers met in November. Invitations for permanent committees have been sent out at this writing.

7. *Washington and Oregon.* This group was one of the first to organize loosely for discussion and promotion of community relations. A meeting in November drafted plans for meeting with the APPA community relations group in early 1953 to see how the two might best work together in the program.

Donald M. Rochester, secretary of the APPA Community Relations Committee, says that since the institution of the APPA program many young men have been employed or promoted to personnel jobs for training to handle the community relations program. In the past year 10 more companies have offered full 4-year scholarships to men entering university life, to bring to 25 those in the

FOUR EMPLOYEE PUBLICATIONS in top row are new ones (l to r): "ROLLS AND REAMS" of Bergstrom Paper, "FITCHCO-DECO NEWS" of Fitchburg Paper, "HYPENEWS" of N. Y. & Penn Co., and "OUTTURNS" of Merrimac Paper Co.

SAMPLES OF TOUR BOOKS are in middle row—these are guide books for Ecusta Paper Corp., Crossett Paper Mills, Franconia Paper Co. at Lincoln, Cornell Paperboard Products (latter is below).

industry now offering this support. New companies that are now publishing employee magazines include: Ward Paper Co., Merrill, Wis. Fitchburg Paper Co., Fitchburg, Mass. New York and Penn Co., Johnsonburg and Lockhaven, Pa. Merrimac Paper Co., Inc., Lawrence, Mass.

Northern Paper Mills, Green Bay, Wis. Bergstrom Paper Co., Neenah, Wis.

During Paper Week in February the Community Relations Committee will have its first opportunity since organization to show what has been done in the past in the industry and what is being done under the present program to enhance the relationship of the industry with its community. A large exhibit space has been set aside in the Regency Suite at the Waldorf for exhibits.

One section of this exhibit space will be taken by the Wisconsin group that has pioneered in community relations for the industry. The balance will be taken to show the status of community relations elsewhere in the country and the progress which has been made in the past year.

Two men will be on hand during Paper Week at all times to service these exhibits. These will be trained men familiar with the Community Relations program and able to talk about costs of the program, employee magazines, guided tours, special literature, etc. The exhibits will contain collections of materials on (1) Guided Tours and Open Houses; (2) Employee Handbooks; (3) School Cooperation; (4) Recreational Associations; (5) Employee Magazines and Management News Letters; (6) Special Publications; (7) Annual Reports; (8) Radio Programs; (9) Scholarship Programs; (10) Contributions to Worthy Causes; (11) Industrial Fairs; and (12) Press Relationships.

Serving with Mr. Bergstrom on the APPA Community Relations Committee are Wentworth Brown, Brown Co.; J. L. Camp, Jr., Camp Mfg.; Dwight Thomson, Champion; Bruce Crane, Crane & Co.; W. D. Welsh, Crown Zellerbach; Paul Koenig, Glatfelter Co.; George J. Adams, International; G. O. Jenkins, Jr., Geo. O. Jenkins Co.; M. J. Schulenberg, Kimberly-Clark Corp.; Carl Geisler, Marathon; A. G. Paine II, N. Y. & Penn.; T. F. Spear, Oxford Paper; Ed G. Gay, St. Regis; Don Hardenbrook, Union Bag; Howard Morgan, Weyerhaeuser.

Wisconsin's "Workshops"

DUNNING OF SCOTT ADDRESSES GROUP

Information Service, Wisconsin Paper Industry, a working organization created back in 1950 by 26 Wisconsin mills, has been taking long, strong steps along the

THIS IS A GROUP OF REPRESENTATIVE COMPANY PUBLICATIONS published at Wisconsin mills. "cooperation" is Kimberly-Clark's outstanding magazine printed every two months; "THILCO NEWS" is Thilmany's excellent magazine; others are recognizable by their names, such as "RIPCO RIPPLES" at Rhinelander, "NEPCO NEWS" at Nekoosa-Edwards, etc. Some are patterned after newspapers rather than being in magazine style.

road of developing successful company communications among its members.

IS, WPI, has tossed its baby bottle and diapers on the ash heap and is showing a robust health and intelligence far beyond its years. In the Apr. 1952 issue of PULP & PAPER, the story of the birth and the first somewhat unsteady steps and groping of this infant organization—sometimes known as the Wisconsin "Workshop"—was told. Now, in 1953, it has reached a stage of growth where its techniques and activities are as scientifically well-grounded as those of the financial, engi-

neering or technical research organizations in this industry.

Its board of directors meets with its activities committee every two or three months at the North Shore Golf Club in Appleton. There is usually a good attendance of presidents and other top management executives along with their employee and community relations experts. The service, also, has a permanent production office in Menasha, getting out periodically helpful reports, publications, and reproductions of various examples of company communications.

Joe Schulenberg, of Kimberly-Clark, chairman of activities, made this recent report on the numbers and types of company communication mediums in existence in Wisconsin mills:

Employee handbooks: Three; two more are in progress; two more are contemplated.

Pension plan books: Two; one more is being prepared.

Insurance plan books: One; another is in the first steps of organization.

Books describing operation and people who do the job: (for company mailer, tour give-away, and so forth) Five; two more are under way.

Management newsletter programs: Three.

Bulletin board programs: Ten; five more are either being revamped or formulated.

Open house programs: Five; two more are planned for spring.

Quarter century club: One.

Tour folders: Two.

Operation booklet for employees: One being planned.

Special radio program sponsorship (exclusive of pools): Three.

Company history: One in progress.

Company press department: One opened.

Company institutional ad series placed weekly in community paper: One; three companies have scheduled irregular insertions of institutional material.

Company movie: Four; one in progress.

Regular film showings (cafeteria, meeting room, etc.): One; three contemplated.

John McCune, young public relations man who operates the modest office of IS, WPI, at 712 Kinzie Court, Menasha, under supervision of Mr. Schulenberg, made this report on his activities as coordinator:

"The office handles writing, duplication, stuffing, addressing and posting of over 4,000 separate pieces of mail during the 1951-52 organization years . . . the office distributed meeting reports and articles and reprints of "Workshops" meeting reports in a single booklet. These are to

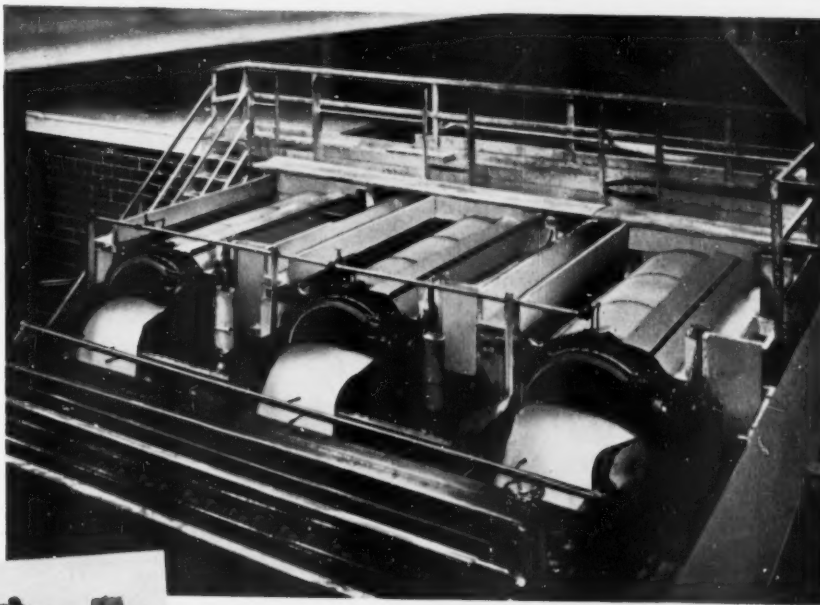
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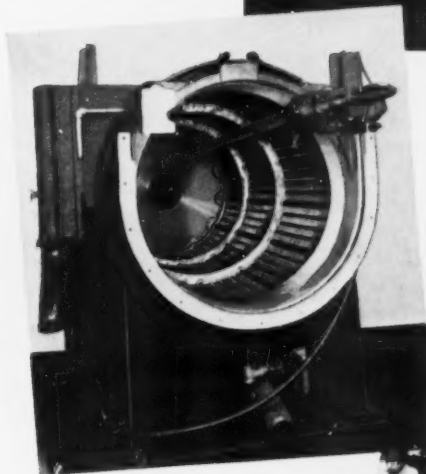
YOU NEED BIG, MODERN BIRD SCREENS

— **with** the capacity to take care of today's paper machine speeds and feeds.

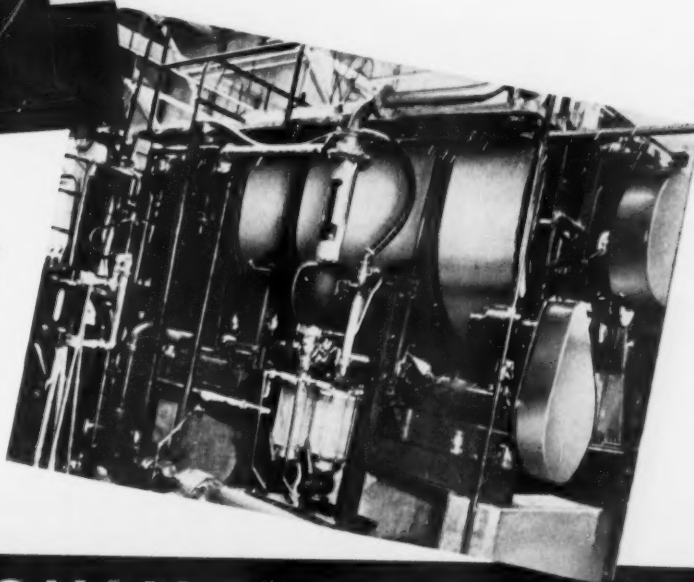
— **with** the ample screening area to permit finest possible screen slots for your grades of stock.



— **with** the Bird Oscillating Shower Pipe to keep the screen slots clean and open while using only a small fraction of the water required with ordinary showers.



— **with** Dирtec tailings units which handle screen tailings as fast as they collect (seven tons per screen per day) remove all the dirt and return the clean stock with negligible fibre loss.



BIRD MACHINE COMPANY
SOUTH WALPOLE • MASSACHUSETTS

H. & W.'S MOBILE MILL

THE STORY OF THREE YEARS' EXPANSION

DESCRIPTION OF H & W MILL AIR VIEW

THIS IS REPIA OF THE AIR VIEW on the cover of this issue showing the Mobile mill of Hollingsworth & Whitney Co. The plant is flanked on each side by railroads, and faces the Old Spanish Trail (U.S. 90) on the south. Down the center of the plant is the company street with a flanking railroad spur.

- | | |
|----------------------------------|--------------------------------|
| A. General Office Building. | J. Old bleach plant. |
| B. Cafeteria (in oak gravel). | K. Pulp mill. |
| C. Personnel and Locker rooms. | L. New part of pulp mill. |
| D. Laboratory. | M. Power and Recovery. |
| E. Paper Mill. | N. Wood preparation. |
| F. New Paper machine addition. | O. Chip Bin. |
| G. Machine Shop. | P. Lime kiln and causticizing. |
| H. Maintenance supply warehouse. | Q. Expanded water plant. |
| I. New bleach plant. | R. Finishing. |
| | S. Shipping dock. |

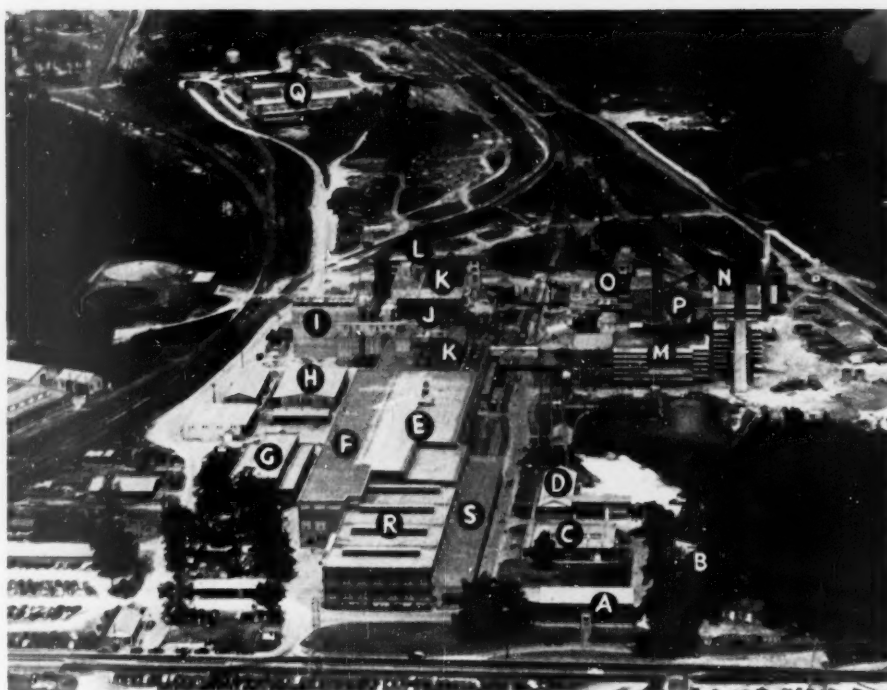
After three years of continued effort, a long-established New England quality paper manufacturing company has brought to successful conclusion the major expansion of its first mill in the deep South, which, since 1940, has been making high quality bleached and unbleached pulp and papers from Southern pine. This mill at Mobile, Ala., owned by Hollingsworth & Whitney Co., stands on the Chickasaw River bank adjacent to its confluence with the Mobile River and not far from the original French colony site on the Gulf of Mexico.

Expansion of the Mobile mill was authorized in 1949 and continued in successive stages until completion in mid-1952. The expansion has effected an increase in pulp production of 180 tons per day, raising the average mill output to 420 daily tons; the paper production, through addition of a machine, was raised to 340 tons per day; and the bleaching capacity, through addition of a 150-ton bleach plant, was raised to 250 tons daily.

Background of H & W Co.

The bringing together of North and South through Hollingsworth & Whitney is of more than passing interest. This company is one of the oldest papermaking organizations in the United States whose history goes back to 1801 when Mark Hollingsworth, father of one of the founders, operated a mill on the Neponset River near Boston. So the aristocratic South, through Hollingsworth & Whitney, has gained one of the oldest and finest names in the industrial North.

The sons of Mark Hollingsworth, Ellis A. and Lyman, each became expert in papermaking and contributed important improvements and methods to the indus-



try. It was Lyman who discovered an improved method for manufacture of manila paper through the utilization of waste rope in 1837, and he and John M. Hollingsworth were granted a patent on the process in 1843.

The company took its present name in Boston on Apr. 5, 1862, when Ellis A. Hollingsworth and Leonard Whitney, Jr., formed a partnership for the manufacture of paper and bags, and in Boston H & W still maintains main offices. Prior to this, Mr. Whitney had produced the first machine-made paper bags in America at Watertown, Mass., in 1857, and later, through purchase of a patent of an 1872 invention of Luther C. Crowell, the company pioneered the first manufacture of bags formed with a square bottom, forerunner of the modern "grocery bag."

In 1876 a mill was purchased at Gardiner, Me., and this plant was under continuous operation by the company until 1939. Following death of both founding partners, the business was incorporated on Feb. 14, 1882 as Hollingsworth & Whitney Co., with Sumner Hollingsworth as first president. Charles A. Dean became vice president and general manager that year, and to him is given credit for the first great expansion which saw production lifted to 54,000 tons by 1911.

Construction of its first large mill was started at Winslow, Me., in 1891, and un-

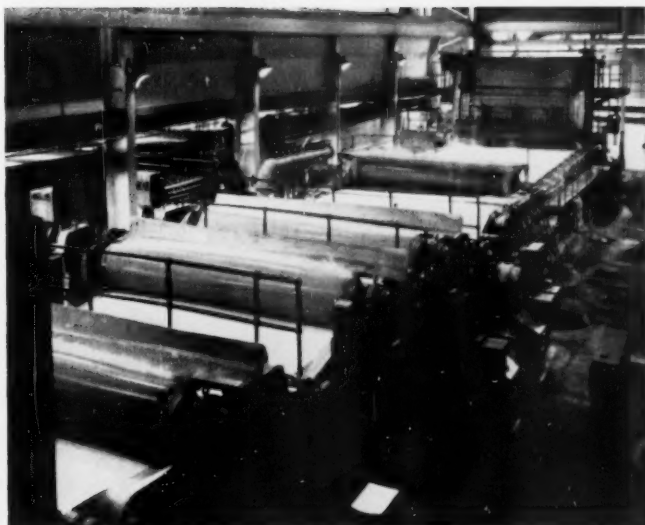
der Mr. Dean and his successors, W. E. Pratt and M. L. Madden, has been brought to present capacity of 340 tons of paper per day from six machines, and 250 tons of sulfite pulp.

The Winslow mill is on the Kennebec in central Maine. It operates 5 Fourdriniers and one cylinder machine producing high grade specialty papers, both whites and colors. In 1909 a groundwood mill began operations at Madison, Me., north of Winslow and also on the Kennebec. This mill has capacity of 100 tons per day.

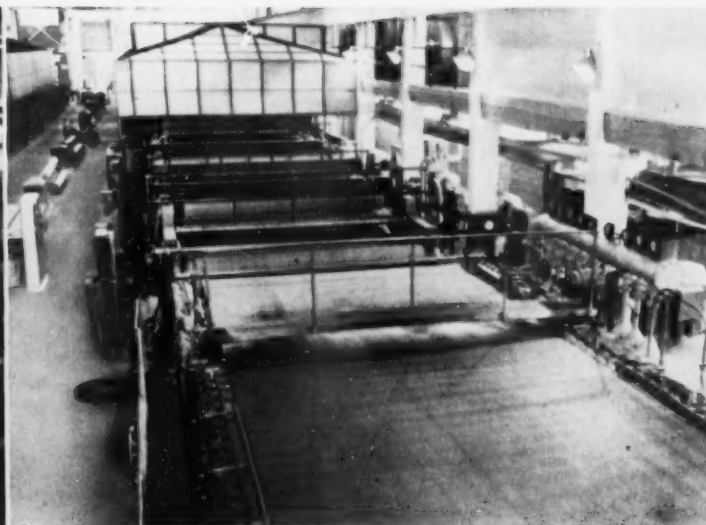
Decision to locate in the South followed the determination by Hollingsworth & Whitney that (1) wood was available in proper quantities to sustain a long-time operation, along with other necessary facilities including water, fuel, labor, shipping facilities, etc.; and that (2) high quality specialty papers could be made from Southern kraft pulp. As a result, construction started in 1939 with the pulp mill going into operation in 1940, followed by the paper mill in 1941.

H & W Management Personnel

General offices are at 60 Batterymarch St., Boston, Mass., and company executives include: M. S. Madden, chairman of the board; J. L. Madden, president; L. G. Glazier, executive vice president; W. Elliot Pratt, Jr., vice president and treasurer; D. E. Cousins, vice president; Fred-



LEFT—GENERAL VIEW of R-B machine looking toward headbox from press section. Rolls were covered by STOWE-WOODWARD including Microrok top rolls. Console controls are by RELIANCE. Photo at Hollingsworth & Whitney, Mobile.



RIGHT—ANOTHER GENERAL VIEW of Rice-Barton 174 inch machine looking toward press and dryer sections from wet end. Hood and air system were by ROSS ENGINEERING CORP. Part of the expansion at Hollingsworth & Whitney Co., Mobile, Ala., mill.

erick Goodridge, vice president; Jack B. Cowie, vice president in charge of sales; and Charles J. Dynes, assistant vice president. Branch sales offices are at 230 Park Ave., New York City, and 111 West Washington St., Chicago.

Mr. Glazier has been in direct charge of the original construction and expansion programs since 1940. Mr. Cousins is in charge of operations at Mobile, and has with him: Ed P. Wood, mill manager; H. I. Pearl, assistant manager in charge of engineering and properties; R. S. Bean, plant engineer; F. B. Smith, general superintendent of utilities and maintenance; J. H. Coil, Jr., office and personnel manager; S. D. Arant, paper mill superintendent; and T. C. Bannister, Jr., pulp mill superintendent.

H & W Products

Through combined facilities in North and South, Hollingsworth & Whitney is able to produce a wide variety of papers and paper stock. Principal products from all operations include: White and ivory

bag stock; baking cup stock; box covering and liner; cable insulating; can stock; carton white; case lining; chart; coating; cylinder duplex papers; die wiping; document manila; drinking cup base stock; dynamite shell paper; end leaf; envelope; folder stock; food container; food packaging; guide stock; gumming; ground-wood papers; index bristol; interleaving (rubber and metal); lamp shade; liquid-tight container; map; metal protective; milk bottle cap and hood; multowall; off-set; patch; pattern; printing manila; safety check; salesbook; saturating; sign; stencil backing; stencil board sulfate and sulfite specialties; tag; textile; time card; tobacco bag; twisting; tympan; wallet; waxed; waxing; and writing. During World War II the company was called upon to produce war purpose papers, a notable example being shell container paper.

Mobile Expansion

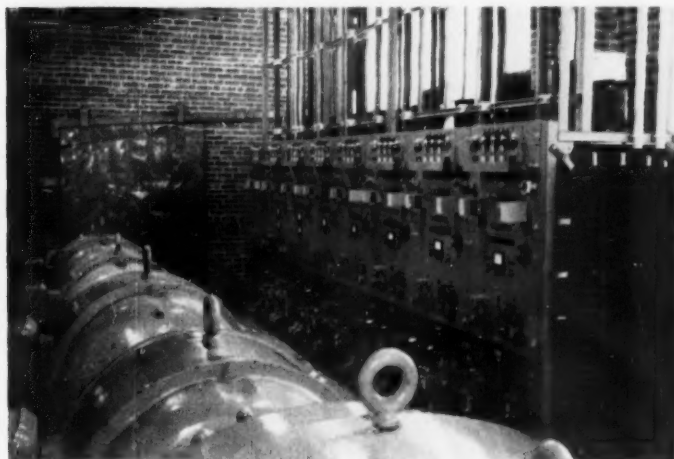
Construction of the original mill at Mo-

bile was begun by the Rust Engineering Co. in 1939, with the pulp mill, as mentioned, going into operation in 1940 and paper mill in 1941. Subsequent expansion of minor auxiliary facilities at the mill were carried on by Rust from that time and included warehouse additions, cafeteria, locker rooms and the like.

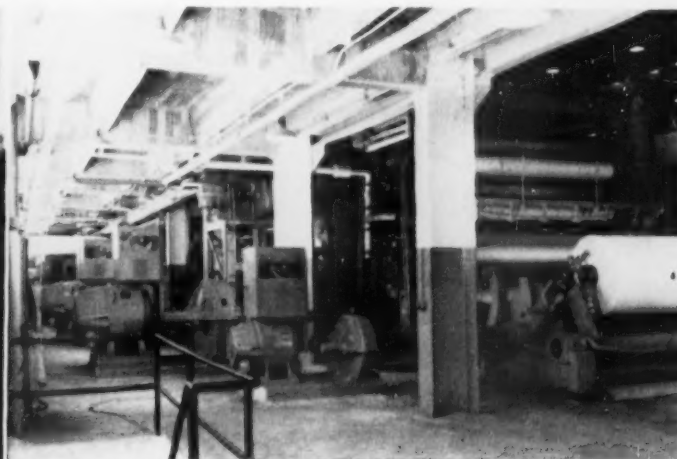
In 1947 Rust began construction under the general improvement program authorized by H & W management. This program, to increase the total capacity of the plant from 240 tons to 420 tons included:

1. A new surface water supply system and water treatment plant of 26 million gals. per day capacity.
2. Replacement of obsolete log conveyors with new heavy duty conveyors and addition of two barking drums.
3. Replacement of two 4-knife chippers with two 10-knife chippers and the addition of chip conveying; screening and storage facilities.
4. Addition of three new digesters, re-

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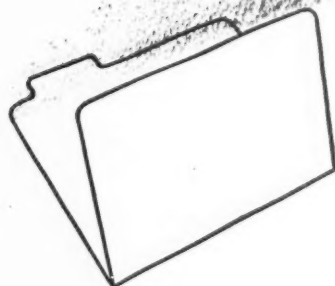
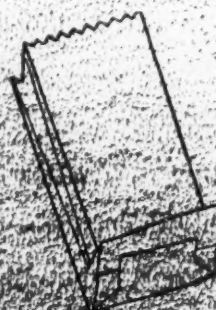
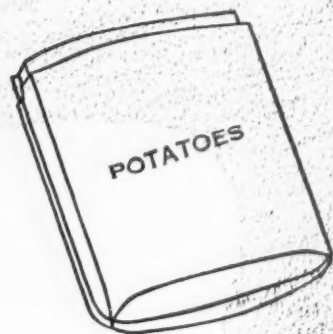


LEFT—ONE OF 3 RELIANCE motor-generator sets with individual generators which serve respective separate D-C panels grouped at right. Electronic and magnetic controls provide flexibility of individual section operation of new H & W machine.



RIGHT—RICE-BARTON machine at Hollingsworth & Whitney Co., Mobile, Ala., viewed along drive side showing RELIANCE motors and sectional interlock regulators. Calender sections in right foreground provided with effective method of taking up slack.

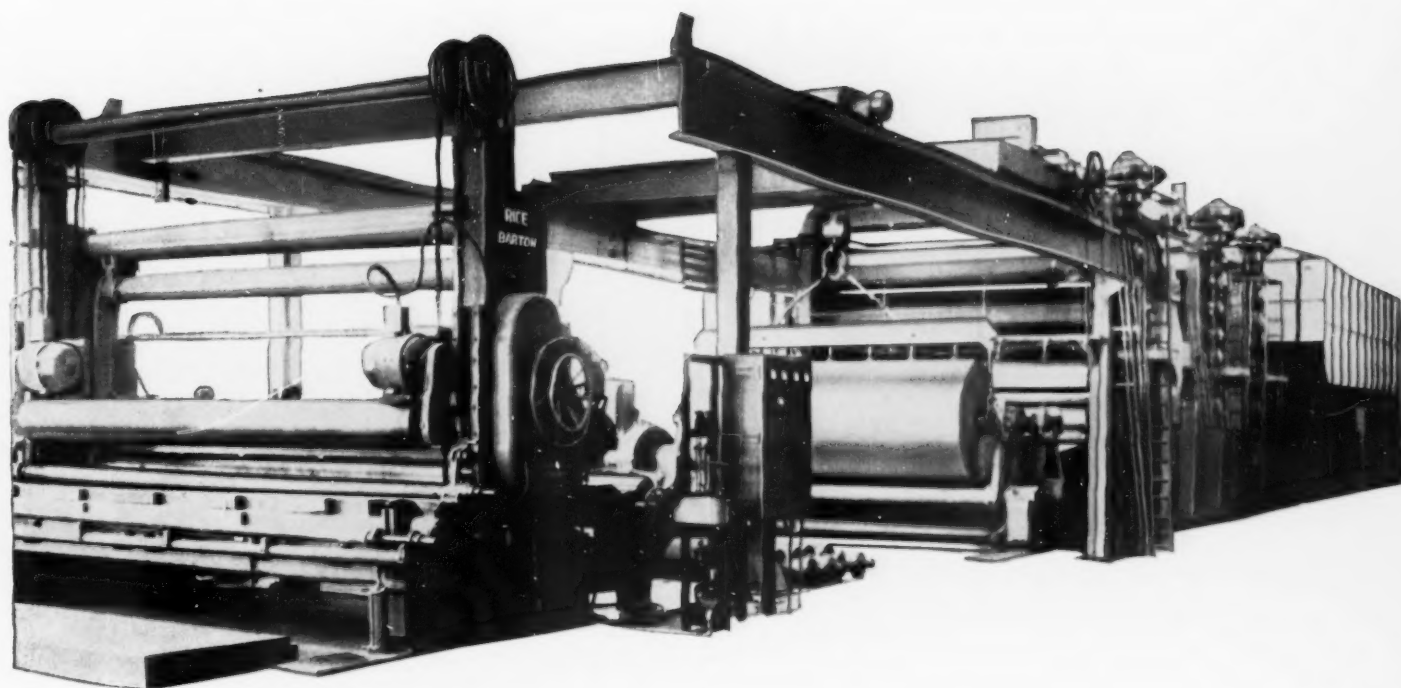
"versatility AND productivity"



PAPER STOCK FOR:
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 MILK BOTTLE HOODS
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 DRINKING CUP STOCK
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 KRAFT MULTI-WALL BAGS POTATOES, GRAINS, FERTILIZER
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. . . . so often considered poles apart -
have been brought together by Rice Barton
in Hollingsworth & Whitney's No. 4 Machine.



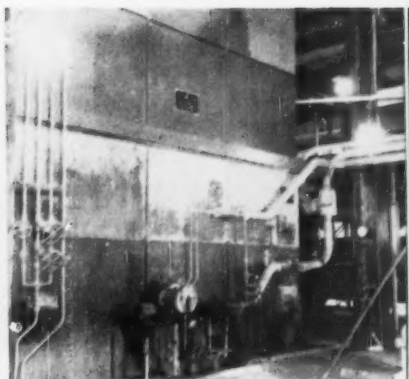
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RICE BARTON CORPORATION

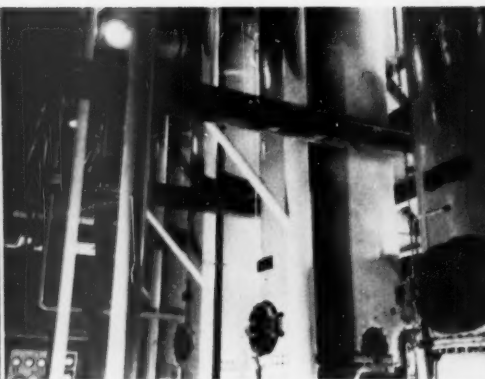
Worcester, Massachusetts

Paper Machine Builders Since 1837

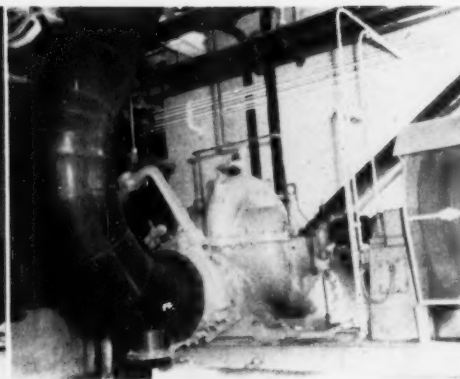
West Coast Distributor: Roy Smythe • 501 Park Building • Portland, Oregon



LEFT—GLIMPSE OF OPERATING FLOOR of new 200-ton BABCOCK & WILCOX recovery boiler installed as part of expansion of the Hollingsworth & Whitney Co.'s Mobile, Ala. mill.



MIDDLE—Tubular bodies of new SWENSON EVAPORATOR CO. units stand in stately dignity in extended portion of Hollingsworth & Whitney Co.'s plant.



RIGHT—ELECTRIC MACHINERY CO. provided synchronous motor and magnetic coupling drive for this fan pump by Worthington for Mobile machine.

placement of four existing digesters and addition of blow tank and appurtenant heat recovery system.

5. Addition of three new washers to existing three, including necessary stock, liquor, filtrate and foam tanks.

6. Installation of knotiers, four rows of flat screens and a decker with brown stock storage tank in screen room.

7. Doubling size of causticizing system, including new kiln and mud filter.

8. A 200-ton recovery unit and precipitator.

9. Addition of two deckers, two beaters, four Hydrafiners and five jordans.

10. The installation of a new paper machine with auxiliary equipment including a saveall and broke beater.

11. A new 150-ton bleach plant.

12. Additional laboratory facilities.

13. Building structures for above equipment and additional office and warehouse facilities.

Wood Handling

Substantial increase in pulpwood handling and storage was accomplished by replacing a natural drain crossing the property with a concrete culvert and filling the ground to mill yard level. Two Link-Belt crawler cranes are used for unloading pulpwood from railroad cars and trucks to the woodyard storage or direct to long conveyors. A new American Hoist & Derrick locomotive crane with 60-foot boom and $\frac{3}{4}$ -cord Blaw-Knox grapple transfers wood from storage piles to long conveyors, dropping in on either

side of a steel "A" shaped platform that is mounted on railroad flanged wheels and track. This can be moved as the crane progresses.

The crane deposits logs on the movable "A" platform from which they roll onto new log conveyors on either side. The conveyor machinery was supplied by Continental Gin Co. and chain by American Manganese Steel Co. (div. of American Brake Shoe). One log conveyor feeds two old barking drums and the other feeds two new 12 x 45 ft. Fibre Making Processes drums. The barked logs are conveyed from drums across a sorting platform by means of slat conveyors. Accepted logs are discharged onto a 48-in. conveyor belt supplied by New York Rubber Corp. Two inclined chain conveyors carry logs from conveyor belt to two new 96-inch 10-knife chippers supplied by D. J. Murray Mfg. Co. which have 21-inch spouts. They are driven direct by two Westinghouse 700 HP motors.

Much of the chip conveyor system was revised and enlarged to accommodate additional volume. This included doubling of chip bin capacity and adding two "Rotex" vibrating screens. Jeffrey Mfg. Co. supplied the conveying system for this operation.

Digester Expansion

The digester building was extended, four existing digesters were replaced and three new ones added. These were six Horton-type 11 x 47 foot units and one Blaw-Knox. These are fully equipped

with indirect liquor heaters and other auxiliaries which include Fibre Making Processes indirect liquor heaters and circulating pumps, Foster-Wheeler blow-down condenser, Crane Valves, Goulds black liquor pumps and Mason-Neilan instruments.

Brown Stock Washing

The capacity of the brown stock washers was doubled by the installation of Swenson Evaporator Co. washers with auxiliary equipment of filtrate tanks, foam disposal system, washed stock storage tank with agitator, vacuum pumps, vacuum receivers, instruments and controls.

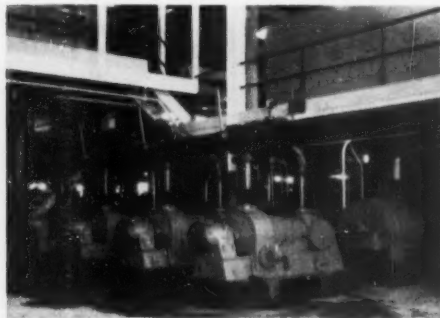
Screen Room

Capacity was increased by addition of two Improved Paper Machinery rotary knotters, four rows of Impco flat screens containing 56 screen plates per row, an Oliver-United stock decker and an additional tile-lined stock chest utilizing Impco agitators.

Extensive Tile Work

Extensive tile work necessary was supplied by Stebbins Engineering & Mfg. Co. acting as sub-contractor. This work included the following stock chests and towers: Semplate lining in the bleach plant for the chlorination tower, the SO₂ tower; two low density towers, three high density towers, six washer vats and one 48 in. stock meter and consistency regulator. Similar tile work included the lining for the white water and brown stock

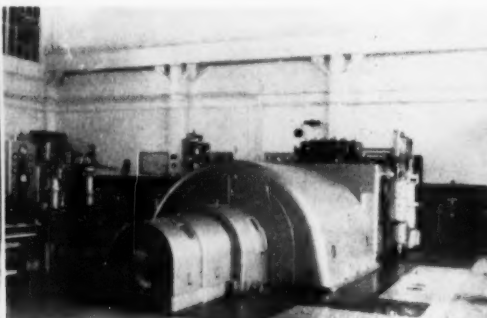
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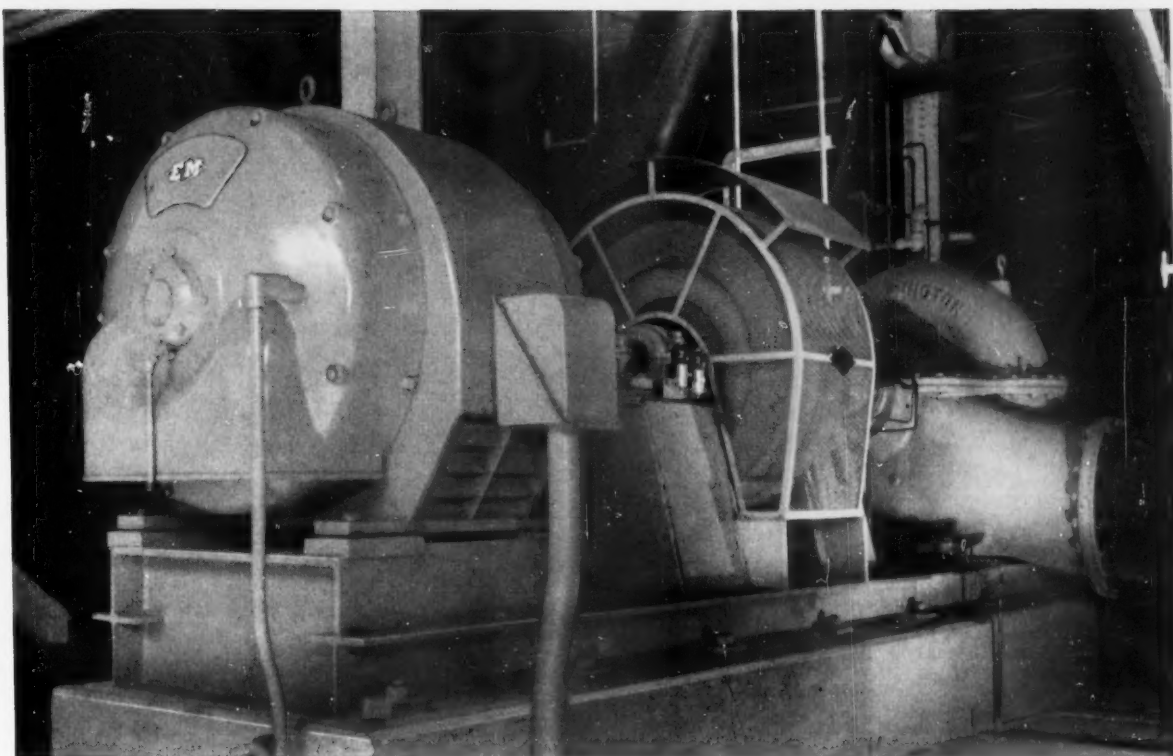
LEFT—FOUR NEW DILTS HYDRAFINERS, each with W. L. RIVES fabricated Monel piping, were provided in expanded stock preparation room as part of expansion of Mobile (Ala.) mill of Hollingsworth & Whitney.



MIDDLE—STEBBINS ENGINEERING CORP. provided for extensive tiling for sides, bottoms, etc., of the beater chest in expansion of Hollingsworth & Whitney's Mobile, Ala. Paper Mill.



RIGHT—GENERAL ELECTRIC furnished this 6000 KW turbo-generator to provide energy for expanded mill of Hollingsworth & Whitney Co. Steam is accepted at 550# with extraction at 130 and 30 psig.



This E-M Magnetic Drive, driven by a 300 hp, 720 rpm E-M Synchronous Motor, provides accurate control of stock handled by a fan pump in the Hollingsworth & Whitney Company's Mills at Mobile, Alabama.

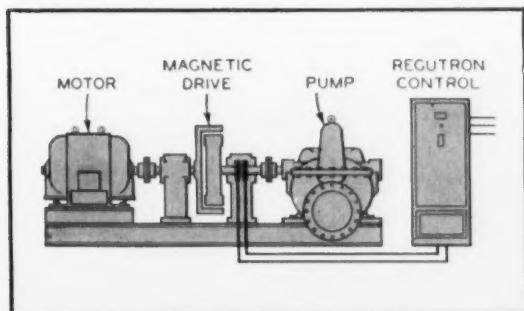
How to keep fan pump speed constant

To manufacture uniform paper, the spouting velocity of the stock in the headbox must match the speed of the screen. However, headbox spouting velocity, which is dependent upon fan pump output, may be materially affected by inconstant pump motor speed, caused by nominal voltage and frequency variations.

Precise control of fan pump speed is achieved most practically and efficiently by an E-M Adjustable-Speed Magnetic Drive and "Regutron" Speed Control. This is because the E-M Magnetic Drive acts as a "speed compensator" between the a-c drive motor and fan

pump. The paper machine operator can select fan pump speed by adjusting a small speed control potentiometer mounted near the paper machine . . . and the "Regutron" Speed Control automatically holds the fan pump at the desired speed.

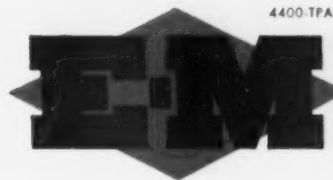
Let this precise, adjustable speed control help you maintain constant fan pump speed in your mill. For complete information on E-M Magnetic Drives and their mill applications, call your nearest E-M sales engineer. Or, write the factory for Publication No. 1107 (on E-M Magnetic Drives and "Regutron" Speed Controls) and E-M Synchronizer No. 33 (a special issue on pumps and pump drives).



E-M MAGNETIC DRIVE SYSTEM for Pump Speed Control—This system consists of a constant-speed motor, the Magnetic Drive, and the "Regutron" Speed Control. Operating speed of the "magnet" coupled to the pump shaft is held at the desired value by the "Regutron" which supplies d-c excitation to the "magnet" in accordance with the setting of the pump speed selector.

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MINNEAPOLIS 13, MINNESOTA

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Specialists in
BIG MOTOR ENGINEERING

Hollingsworth & Whitney's

Newest Mill Installs a

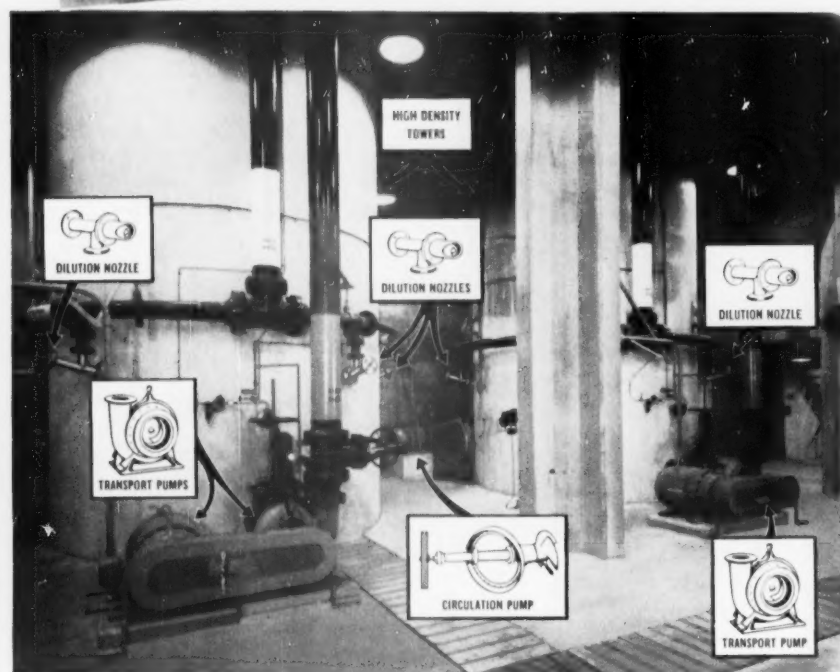
Sandy Hill -Kamyr Bleach Plant



The new Hollingsworth & Whitney mill at Mobile, Alabama, is an outstanding example of modern paper mill construction and technical efficiency. It is the culmination of long years of careful planning towards the objective of constructing a mill ideally equipped for high grade, high capacity, versatile and economical production. Every unit of equipment was chosen after careful consideration.

The Sandy Hill-Kamyr bleach plant, installed in its own new six-story building, complements the high standards set for the entire mill. It is a nine tower system, utilizing six washers and increasing the original bleaching capacity 150%.

Sandy Hill is pleased at this endorsement of the adequacy of Sandy Hill-Kamyr pulp bleaching and proud of the opportunity to make its contribution to the efficiency of this most modern mill.



LOW DENSITY TOWER, pictured at upper left, utilizes Type CR agitator, used also in circulation and storage chests.

VIEW OF HIGH DENSITY TOWERS, at left, shows placement of transport pumps, Type CT circulation pumps and automatically functioning dilution nozzles. Mixing is so thorough that pulp may be withdrawn directly without need for a separate mixing chest.

**200
TONS**

**Daily
Bleach
Capacity**

.....

COMPLETELY MODERN OPERATING FLOOR of new pulp bleaching plant. Supremely practical and efficient, with all controls easily accessible. View shows six Kamyr vacuum washers.



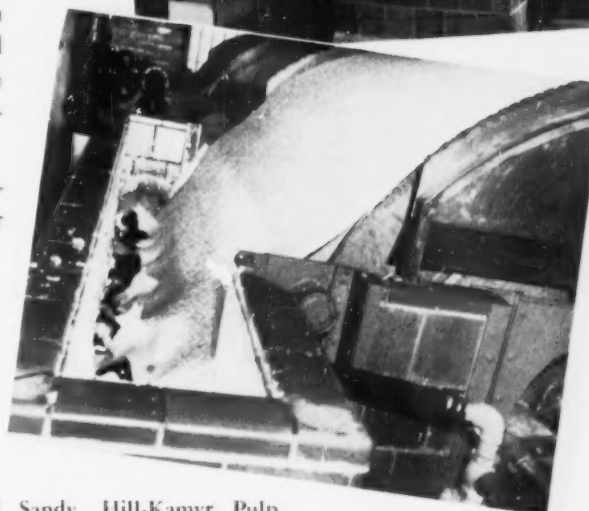
The Sandy Hill-Kamyr pulp bleaching system utilizes methods developed by Kamyr and recognized throughout the world for their superiority. Kamyr's methods of direct chlorination and separate washings after each treatment, revolutionary when first introduced, have been accepted as standard in all modern bleaching.

Among the outstanding Kamyr-developed features are the vacuum washers, which meet high demands of capacity and chemical resistance, and the tangentially connected tower circulation pumps which produce complete mixing of chlorine and pulp through horizontal circulation.

Kamyr's recognized superior advantages in bleaching processes are available to American paper makers through Sandy Hill.

KAMYR STAINLESS STEEL VACUUM WASHER, center right, from drive end, showing enclosed drive for washer drum.

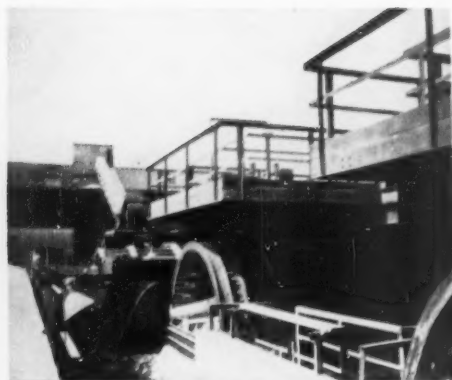
BOTTOM RIGHT, thoroughly washed pulp mat being picked off vacuum washer and entering transport mixing screw.



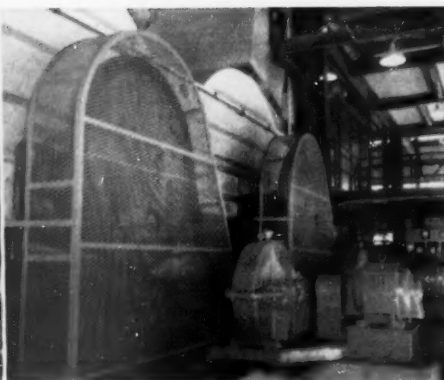
For full details of Sandy Hill-Kamyr Pulp Bleaching System, write for illustrated brochure.



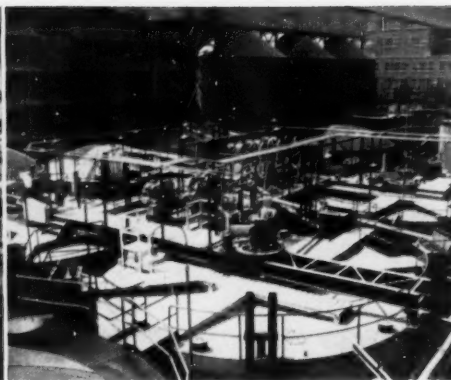
The Sandy Hill Iron & Brass Works
Hudson Falls, N.Y.



LEFT—TWO FIBRE MAKING PROCESSES BARK-ING DRUMS were installed as part of expansion at Hollingsworth & Whitney Co., Mobile, Ala.



MIDDLE—NEW BABCOCK & WILCOX RECOVERY BOILER installed at Hollingsworth & Whitney mill is served by one MURCO-SMITH 11-foot diameter by 8-foot face 4-wheel tubular evaporator.



RIGHT—CAUSTIC INSTALLATION was furnished by DORR CO. and this view affords a glimpse of what has been added at Hollingsworth & Whitney Co.

chests in the screen room, two 30 ft. dia. x 40 ft. high density bleached pulp storage tanks, and the paper machine wire pit, couch pit, white water chest and saveall seal box. Tile lining by Stebbins also included two beater dump chests, the broke chest and jordan chest.

Bleach Plant

Capacity for producing bleached pulp was increased 150% through the construction of an entirely new plant designed and built by Rust Engineering, with equipment furnished by Sandy Hill Iron & Brass Works, utilizing the Kamyrl pulp bleaching system. The building is six stories high, 59 ft. x 107 ft. in size. This structure is noteworthy in that building walls, columns, floor beams, and bleaching towers were constructed by the sliding form method of concrete construction to form one uninterrupted concrete-poured structure. All this reinforced concrete, from foundation to the elevation of the top or operating floor, was completed in less than 8½ days, working 24-hour days without interruption. Reinforcing steel was furnished by Truscon Steel Co.

Of the nine towers provided, seven are in use for the present bleaching system, utilizing the six stage washers and

other equipment such as stock pump and agitators furnished by Sandy Hill. Washer hoods together with the exhaust fans and air supply system, were by J. O. Ross Engineering Corp. The motor drives were by Reliance Electric & Engineering Co., including the variable speed drive for the six washers. White water and chemical pumps are by Warren Steam Pump Co., Inc., instruments by Taylor and Foxboro, and rotameters by Fischer & Procter.

Stock Preparation

In the stock preparation room E. D. Jones & Sons furnished two stainless steel Bertram-type beaters having rolls of 72-inch face and 72-inch diameter. Each is driven by a 450 HP Westinghouse 588 RPM motor through a Link-Belt "Silent drive." Customary equipment for alum, etc., and instrumentation is provided.

Dilts Machine Works furnished four Hydrafiners, each driven by a 250 HP Westinghouse synchronous 1200 RPM motor. Piping for these and the Jones "Majestic" jordan installation that follows is of Monel, and was furnished by W. L. Rives Co., Jacksonville, Fla. DeZurik valves and consistency regulators are ahead of the paper machine.

There are five of the "Majestic" jordan for stock preparation, each driven by a 400 HP Westinghouse synchronous motor of 400 RPM. All are equipped with spherical roller bearings, Mechanite GA plug bodies (slotted according to full bar support Type "W" design), Nowave fillings and telescopic couplings.

E. D. Jones & Sons also supplied five cartridge-type agitators, two of which are used in each beater dump chest and one in the machine chest. The cartridge-type agitators have a completely enclosed shaft and are preassembled prior to shipment for perfect radial and thrust bearing alignments.

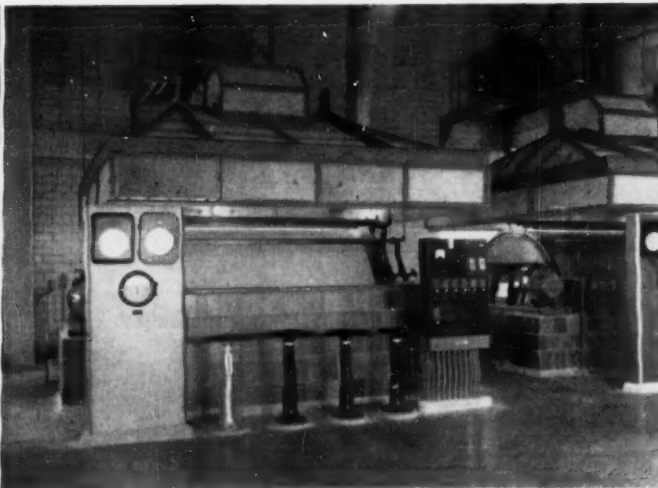
Throughout the stock preparation department and the jordan and refiner lines, DeZurik acid resisting bronze valves are used. These range in size for the two-way type all the way from 4 inches through 14 inches, and for the three-way type are 8-, 10-, and 12-inch sizes.

The Paper Machine

Paramount feature of the Mobile Mill is its versatility. The 174-inch papermaking machine was designed to accord with this policy by Rice Barton Corp. engineers working with Hollingsworth & Whitney engineers. There has been no sacrifice of



RIGHT—CLOSEUP of SANDY HILL VACUUM WASHERS in H & W bleach plant, Mobile, Ala., are equipped with RELIANCE V-S drives employing enclosed fan-cooled adjustable speed motors.



LEFT—GENERAL VIEW of washer floor of the SANDY HILL IRON & BRASS WORKS bleach plant in the new addition at Hollingsworth & Whitney Co. Operators' speed adjusters, push button controls, mounted in front of respective machines.



CHOSEN *for* FLEXIBILITY

In HOLLINGSWORTH & WHITNEY'S

NEW MOBILE MACHINE

MICROROK ROLLS BY STOWE-WOODWARD, INC.

Designed by Rice Barton Corp. for extreme flexibility in the manufacture of kraft papers, five MICROROK rolls were a natural specification for the first, second, third, and size press sections of this machine because of their wide versatility throughout the paper-making industry. In all, this new papermaking machine employs 18 large Stowe-Woodward Rubber Covered Rolls in press, suction, smoothing, lumpbreaker, and spreader sections.

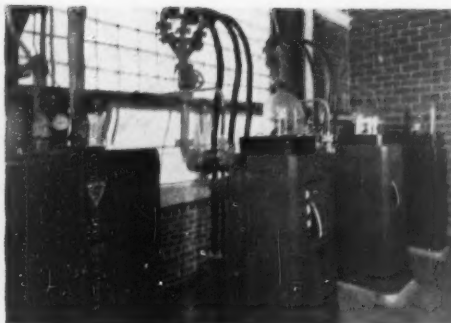
Stowe-Woodward Rubber Covered Rolls keep pace with America's expanding papermaking industry.



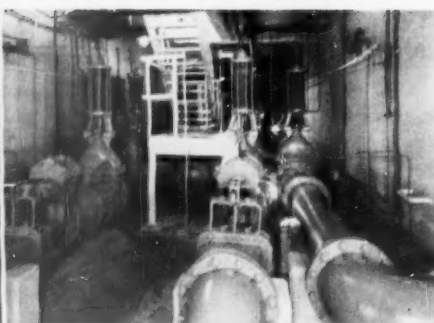
STOWE-WOODWARD, Inc.

Craftsmen in rubber

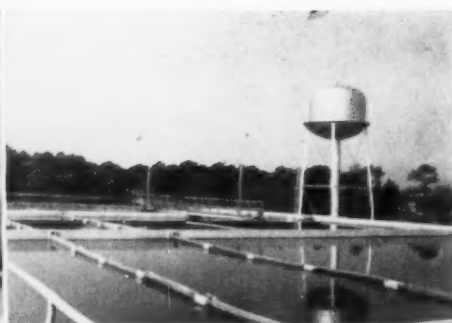
NEWTON UPPER FALLS 64, MASSACHUSETTS



LEFT—WALLACE & TIEMAN furnished chlorination control for water plant, bigger and better than that serving Mobile. Photo at Hollingsworth & Whitney Co. plant.



MIDDLE—CRANE CO. OF CHICAGO furnished hydraulically controlled valves in new water plant at the Hollingsworth & Whitney mill in Mobile, Ala.



RIGHT—AMPLIFICATION OF WATER PLANT at Hollingsworth & Whitney's Mobile mill now provides more of that purified liquid than Mobile's city supply. Three DORRCO clarifiers.

productivity or maximum tonnage potentials. What are recognized currently throughout the kraft industry as top speeds are possible on this machine in every one of the grades of kraft papers being produced at Mobile by Hollingsworth & Whitney.

Also worthy of emphasis, in the viewpoint of top technical men at Mobile, is the fact that the machine has been producing substantially more tonnage in most grades than was called for by the original specifications.

The flow box and slice are built of stainless steel throughout.

The removable Fourdrinier section incorporates the Rice Barton patented duplex breast roll arrangement which has proved popular in recent years. The table is adjustable, with duplex shaking mechanism. Bearing design of the table rolls permits the rolls to be adjusted horizontally along the wire and also allows for vertical adjustment. All table rolls are equipped with antifriction bearings whose casings are designed to exclude moisture and water. Uniquely designed deflectors and wire boards are features of the table section.

Stainless steel has entered into construction also of the suction boxes which have extra large outlets designed for fast disconnection when required. Their oscillation is controlled by one knob only and the principle is oil hydraulic. The suction couch roll is of the cantilever type and is arranged with a double box having separate outlets which are connected to the manifold arrangement ahead of the vacuum pumps.

The lumpbreaker roll pressure may be applied or relieved across the face of the suction couch roll. The roll, carried by the press section, is mounted on a retractable mechanism and therefore, eliminates handling and interference when stringing a new wire.

All three units of the press section are provided with a Rice Barton designed oil hydraulic loading system at the press nips. In this design, the oil is metered to the cylinders so that both ends of the roll may be raised or lowered together in a parallel plane. The control allows for application of pressure, and floating or raising the roll. No jack screws, arms or similar devices are required to maintain the rolls in this out-of-contact position. An automatic counter-balanced feature is incorporated in this design for the protection of the operator.

The motor operated felt stretchers are controlled from the machine room floor level and additional electrical and manual controls are located in the basement. In making a felt change, the roll is supported by a special member so that the new felt can be readily tucked around the stretcher roll. Each press felt is equipped with the usual felt-conditioning devices.

The paper passes in a forward direction through the smoothing press which follows the press section. Out of the smoothing press, the sheet goes down through the dryer section.

There are 53 paper dryers, 10 felt dryers, and one baby dryer in the three dryer sections of the machine. Dryers are so arranged that between the first and sec-

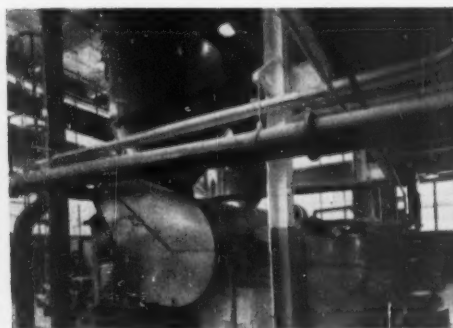
ond sections there is a breaker stack, and between the second and third sections there is a size press. Antifriction bearings have been employed throughout the dryer section and enclosed gears run in a bath of oil. The positioning and spacing of the dryers on this machine provides a measurable increase in drying rates.

Spring-loaded paper rolls of special design are located between the various dry sections. These remove the weight of the roll entirely from the sheet and offer a sensitive compensating arrangement.

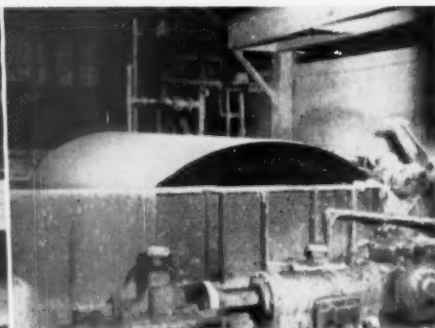
The size press is of the straight-pass type in which the sizing material is applied by means of showers. Just ahead of the roll nip, on the entering side, is a specially designed adjustable pendulum-type spring roll. This unit is motor operated, being controlled by pushbuttons. Its chief function is to change the lead of the paper carrying ropes so they will be in the proper plane when passing the sheet, but in operation will be raised out of position to avoid becoming coated with the sizing material.

Three 8-roll calender stacks of the box type with motor operated lifts follow the dryer section. Their rolls are mounted on antifriction bearings designed specifically for this purpose. Some rolls are bored for high pressure steam. Calender dryers are located between two of the stacks.

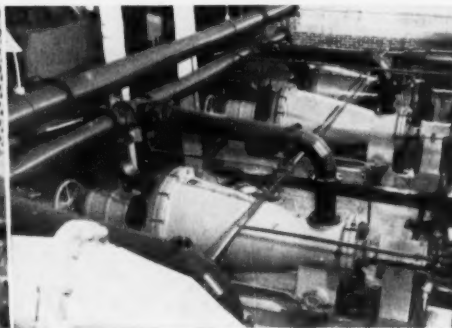
The uniform speed reel has a 60-inch diameter drum which is arranged so that the sheet may be tempered, if desired. The reel is completely controlled via hydraulics which include a compensating device to maintain uniform pressure between the roll of paper and the face of the



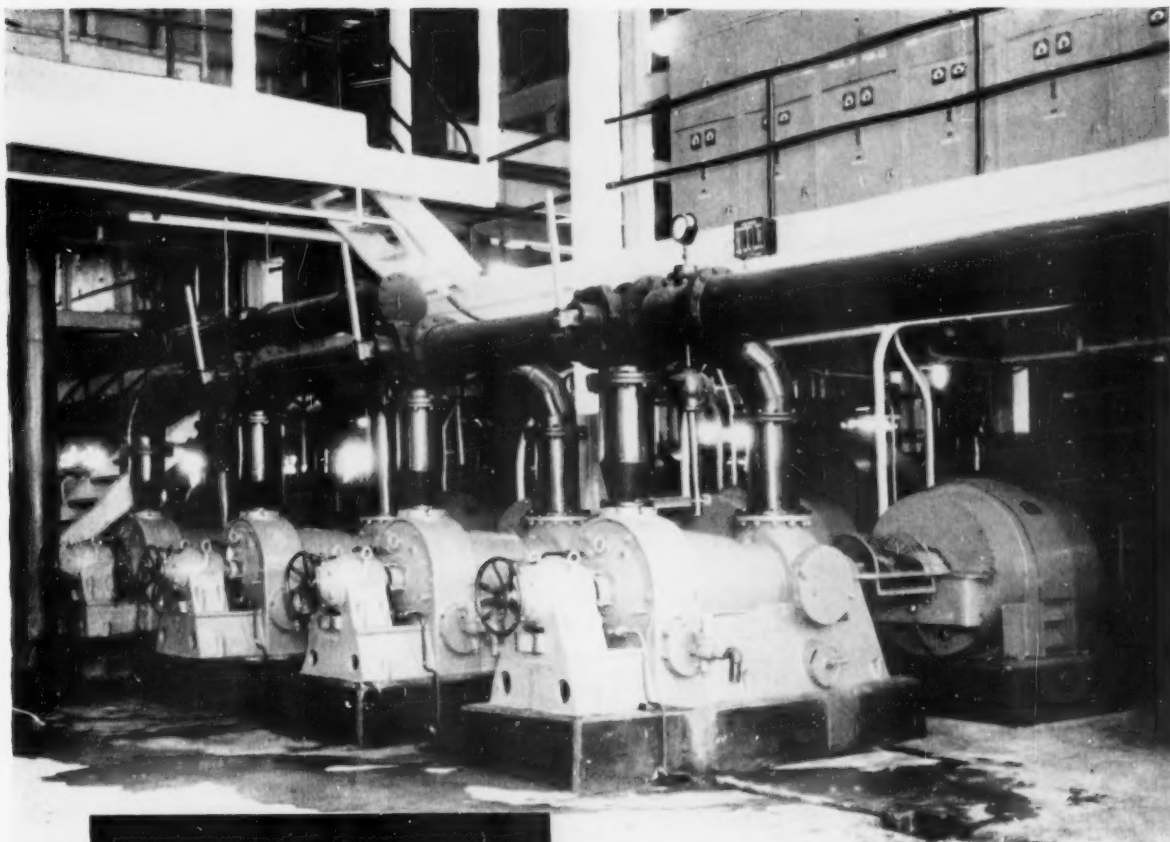
LEFT—VIEW OF E. D. JONES & SONS CO. stainless steel BERTRAM batch beater installed to serve new paper machine at H & W mill in Mobile, Ala.



MIDDLE—FIBER SAVING from white water is effected at Hollingsworth & Whitney Co.'s expanded Mobile mill with this IMPROVED PAPER MACHINERY CORP. vacuum filter.



RIGHT—E. D. JONES & SONS jordan for the new machine are "Majestic" units, MONEL piping for the H & W Paper Mill was fabricated by W. L. RIVES CO., Jacksonville, Florida.

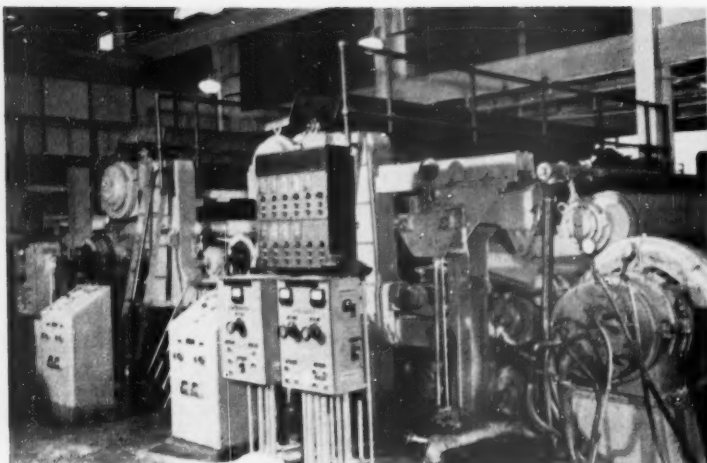


10 HYDRAFINERS at H & W Mobile Mill

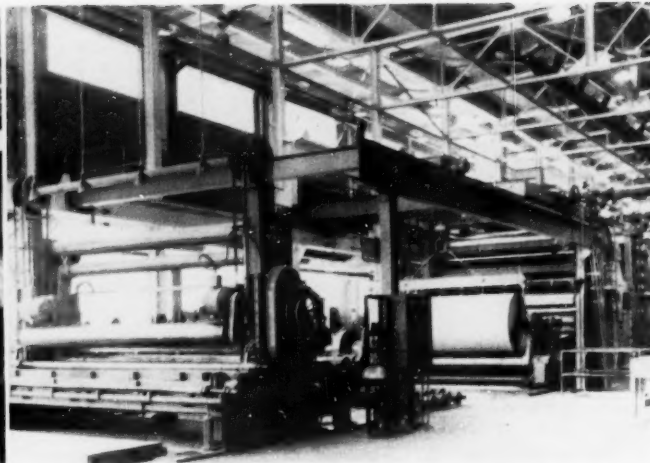
Hydrafiners® No. 7, 8, 9 and 10 recent'y installed —
six previously installed — all in daily operation on
high quality bleached sulfate specialty grades.
Supplied through Dilts Machine Works division, Fulton, N. Y.



THE BLACK-CLAWSON COMPANY
HAMILTON, OHIO



LEFT—SUCTION COUCH AND PRESS SECTION of RICE-BARTON 174-inch Fourdrinier machine at Hollingsworth & Whitney Co., Mobile, Ala., showing operator's Reliance control stations for these sections located at front side of machine.



RIGHT—RICE-BARTON machine, dry end, showing its R-B winder. Two 50 hp. RELIANCE motors drive separate drums of winder up to 4,000 rpm., and slitters are also separately motor driven. Photo at Hollingsworth & Whitney, Mobile.

reel drum.

The winder is of a heavy-duty type to handle kraft papers in rolls up to 60 inches in diameter and at speeds in excess of 4000 feet per minute. Each of the two winding drums is driven by a separate motor and the individual slitters are likewise driven, each by its own motor. The slitters utilize the Rice Barton patented air-operated device for engaging and disengaging. The winder is equipped with roll ejecting device and mechanism for raising winder bars into position after assembling the cores.

From dryers to reel, the machine is lubricated from a central system. The drive is of sectional electric type.

Machine Drives and Controls

The 17-section machine, which will run at speeds ranging from 200 through 1500 f.p.m. is driven and controlled by equipment engineered for this installation by Reliance Electric & Engineering Co. Each section is driven by its own DC adjustable speed motor and generator, with drive motors ranging in size from 20 through 350 HP with corresponding generator ratings. Each section has its own floor-mounted panel, with 30 panels located to achieve shortest-possible runs of cable to the motor-generator sets.

A long, narrow room located beneath the drive area of the first two dryer sections of the machine houses motor-generator sets I and II and their corresponding control panels. In a separate room is set III along with the control for the master control set and exciter. This room also contains the 2300-volt Electric Machinery Mfg. Co. synchronous motor controls for the motor-generator sets and the winder drive. Both rooms are ventilated by Ross air systems, permitting use of normal open-type panels and generators, and giving ease of inspection and maintenance with the utmost in cleanliness and operating comfort.

The master control set, combined with the Reliance mechanical differential section regulator mounted on each section motor, maintains stable draw between sections and the stability of overall speed. The speed of a given section is controlled by its section regulator from the viewpoint of draw, or selected relationship of this speed with the selected reference speed, the latter being a direct function of overall speed. This reference speed is common to all 17 sections and represents one purpose of the master control set. The master control set also transmits signals from a tacho-generator to the section panels so that voltage changes bring im-

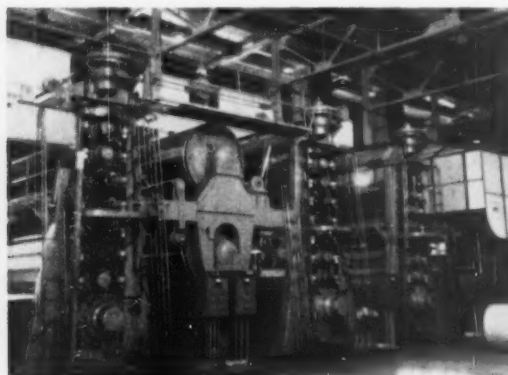
mediate section speed regulation so that wide speed changes may be accomplished on the machine without a break.

A feature of the Reliance machine control is the installation of parallel lines on essential circuits to eliminate production delay when electronic tubes fail. So effective is this that several tubes can be removed even while the machine is running without draw disturbance. Thus tube characteristics can vary without damage to tonnage output, or can fail and be replaced at leisure.

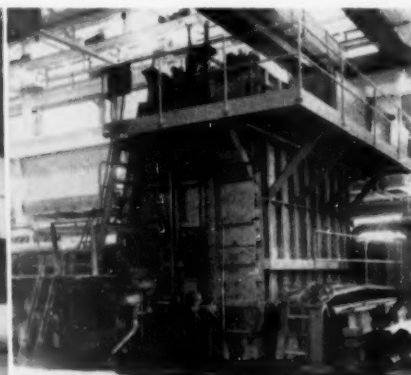
Other Reliance features include a new method for taking up slack at the calenders and reel sections without disturbing the draw setting. Some sections have a current limit feature for setting maximum tension, sometimes desirable on dry end sections. The Reliance exciters are duplicates for all sections, regardless of HP capacity, which permits the carrying of one spare for use if electronic trouble other than tubes develops. The mountings and terminal connections are so arranged that an exchange can be made in a few minutes.

Auxiliary Machine Equipment

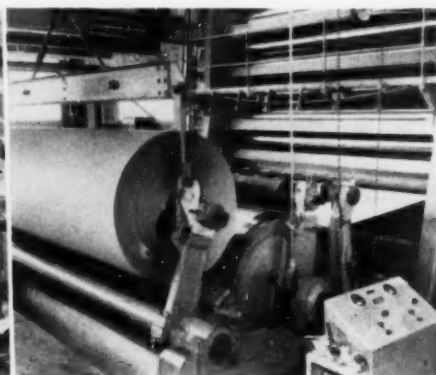
The paper machine is equipped with 18 large rubber-covered rolls furnished by



LEFT—TRIPLE CALENDER installation of new Rice-Barton paper machine in Hollingsworth & Whitney Co.'s Mobile, Ala., mill.



MIDDLE—HEADBOX OF RICE-BARTON'S new 174-inch paper machine at the Alabama mill of Hollingsworth & Whitney Co.



RIGHT—EIGHT ROLL calender stack with Rice-Barton—60 inch drum diameter uniform speed reel in the Hollingsworth & Whitney plant.

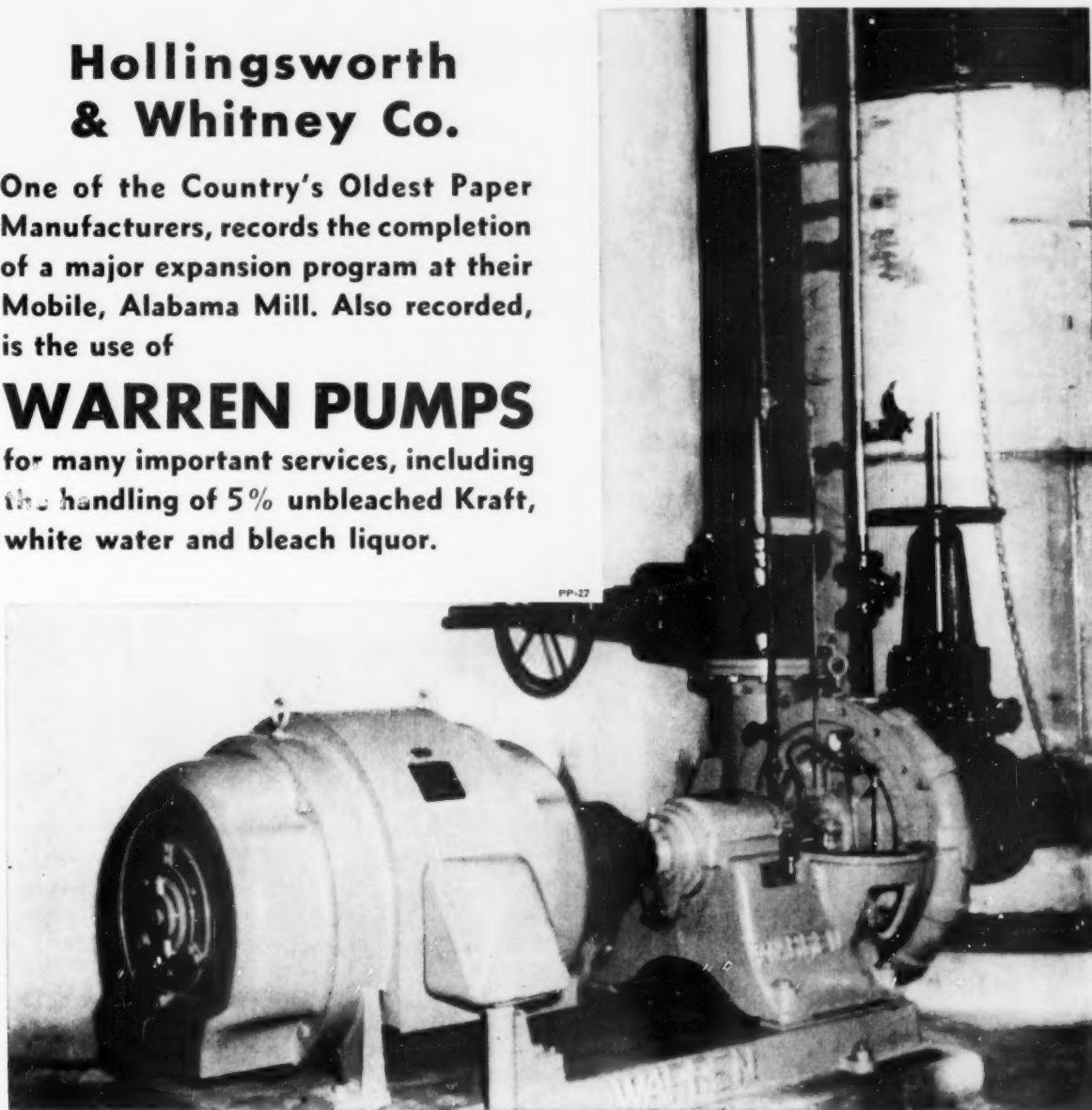
ANOTHER PROGRESS REPORT

Hollingsworth & Whitney Co.

One of the Country's Oldest Paper Manufacturers, records the completion of a major expansion program at their Mobile, Alabama Mill. Also recorded, is the use of

WARREN PUMPS

for many important services, including the handling of 5% unbleached Kraft, white water and bleach liquor.



These Warren Pumps, like those in the original installations in Mobile, as well as in Hollingsworth & Whitney's plants in New England, can be depended upon to contribute their full share toward meeting the greatly expanded production goals set by these progressive mill operators.

Whether it is to be a new mill, modernization or expansion programs, it will pay you to specify:

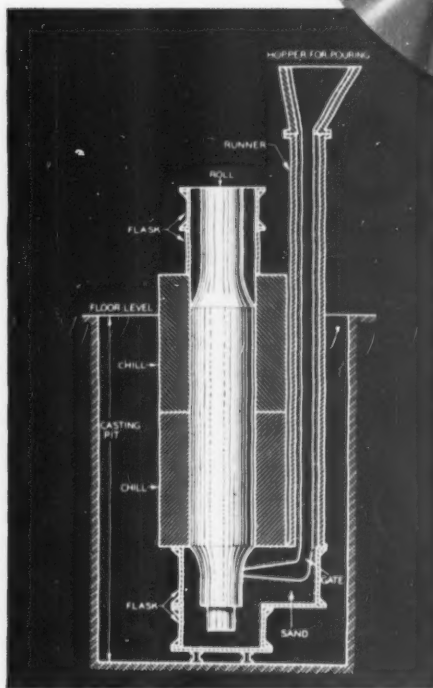
WARREN PUMPS

WARREN STEAM PUMP COMPANY, INC., WARREN, MASSACHUSETTS

It pays to specify FARREL® ROLLS



...because



The body of a chilled-iron roll is formed by pouring molten metal into an iron mold or chill. Iron being a good conductor of heat, cooling is rapid, causing the surface of the roll body to "chill" and harden. The body of the roll below the chilled surface cools slowly, forming a gray iron structure which gives strength to the roll.

Among the facilities of the Farrel roll shop are the chills needed to produce a complete line of rolls, up to the largest sizes used in the paper industry.

Farrel has the experience and facilities to make rolls to meet your exact requirements.

Farrel rolls are manufactured in the *world's largest specialty roll shop*. Here you will find: deep pits for the vertical casting of the largest rolls used in paper mills . . . iron chills in a complete range of sizes . . . specialized pouring and handling equipment . . . provision for the most exacting metallurgical control . . . machine tools for producing rolls of all types and sizes . . . Farrel swing-rest grinders with automatic crowning device . . . and the Farrel roll caliper — all operated by men with broad experience in every phase of roll manufacture.

The next time you need precise, long-lived rolls for machine, board, glassine and super calenders, breaker stacks, smoothing presses, etc. . . specify "Farrel." For further details, send for a copy of Bulletin No. 116. No cost or obligation.

FARREL-BIRMINGHAM COMPANY, INC.

ANSONIA, CONNECTICUT

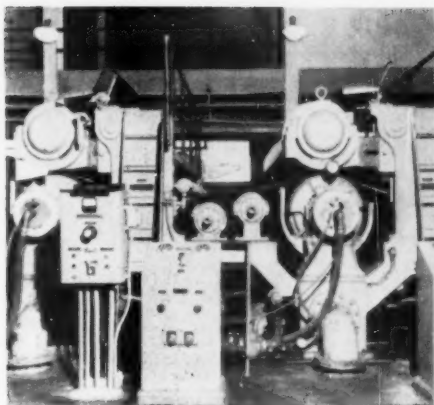
Plants: Ansonia and Derby, Conn., Buffalo, N. Y.

Sales Offices: Ansonia, Buffalo, New York, Akron, Chicago, Los Angeles, Houston

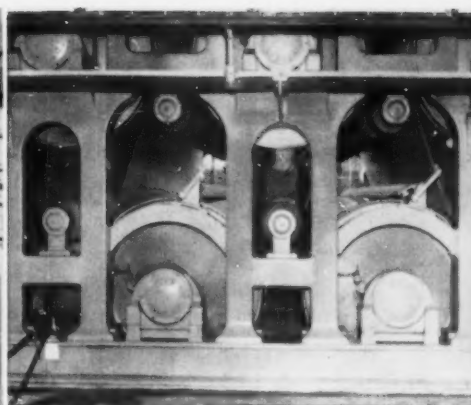
Farrel-Birmingham®

FB-774

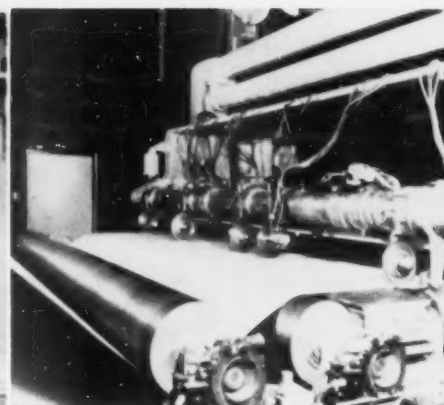
PULP & PAPER



LEFT—R-B PRESS SECTION showing RELIANCE controls and STOWE-WOODWARD covered rolls in the new addition of H & W plant in Mobile.



MIDDLE—DRYER SECTION of the new Rice-Barton machine described fully in article. Photo taken at Hollingsworth & Whitney.



RIGHT—CUTTER END OF RICE-BARTON paper machine operation at Hollingsworth & Whitney Co.'s plant, Mobile, Ala.

Stowe-Woodward, Inc., including five Microrok rolls for the press section, and suction, smoothing, lumpbreaker and spreader rolls.

A Midwest-Fulton forced vapor circulating system is used for controlling the dryer surface temperatures and evacuating the condensate and non-condensable gases. The positive dryer drainage obtained makes it possible for the automatic instruments, which are a part of the system, to control closely the dryer temperature independently in the three different sections.

The fan pump was furnished by Worthington driven by Electric Machinery Co. synchronous motor, magnetic drive and speed control. This combination provides a means of obtaining precisely controllable, adjustable speed from the constant speed synchronous motor for the fan pump which supplies pulp stock to the head box.

J. O. Ross provided extensive heating and ventilating systems for the machine. These included hood of panel construction, exhaust fans, supply fans, makeup air units, bottom felt drying, Grewin system, calender cooling, motor cooling and control room and aisle ventilation. All entering fresh air is filtered.

Lodging-type doctors are in the dryer sections and Foxboro instruments on control boards. A Stamm moisture controller is used to control the moisture content of the sheet.

Paper from the machine is lowered to the floor for handling by a Rotary Lift hydraulic levelator with pushbutton controls. Nash vacuum pumps are used, and other machine auxiliaries include Impeco saveall and Dilts broke beater.

Recovery Plant

To handle increased black liquor flow, multiple effect evaporators were supplied by Swenson Evaporator, with evaporated liquor going to a new Babcock & Wilcox recovery boiler equipped with D. J. Murray 11 x 8 foot tubular type Cascade evaporator.

There are two electrostatic precipitators in operation at the plant—each with a rated capacity of 110,000 cfm. One was a Research precipitator installed in 1948. The recent addition is a Koppers Co. Inc. "Koppers-Elex."

To provide flexibility of operation this Koppers precipitator is constructed with twin parallel precipitation chambers which makes it possible to maintain or inspect one while operating the other.

A feature of the new installation is its energizing by a 30 KVA synchronous mechanical rectifying packaged power unit, which houses all functions of voltage transformation, rectification, metering and control within a single metal cabinet. The packaged power unit provides a linear selection of output voltage within the approximate range of 30 to 65 kilovolts (R.M.S.), and it is protected from overload conditions—such as heavy arcing or short circuit—by a combination of inverse time relay and surge-limiting impedance network. An interlock system prevents access to any of the high tension elements of the precipitator or power rack until the high tension system is de-energized or grounded.

The causticizing installation was doubled in capacity by the addition of the Dorco equipment including green liquor clarifier, dregs washer, slaker, causticizers, white liquor clarifier and lime mud washer. The lime mud filter was furnished by Oliver United.

The mill had one lime kiln to serve existing production, and a second one by Traylor to meet demands created by greater chemical use. The new kiln is 8 feet in diameter and 160 feet long. Its

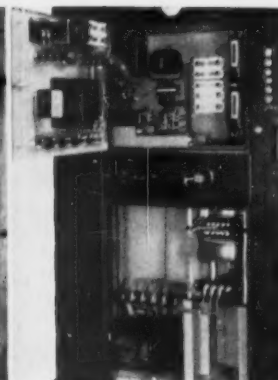
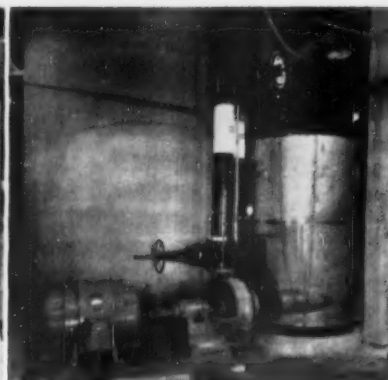
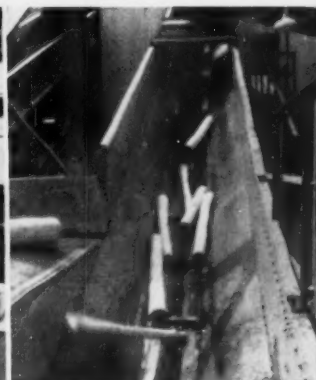
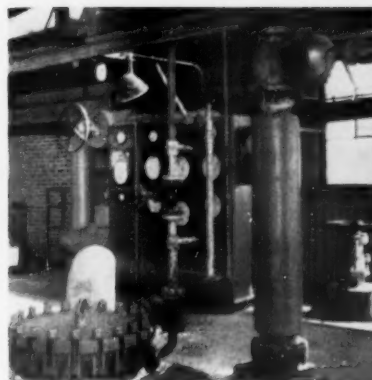
(Continued on page 52)

LEFT—GLIMPSE OF NEW SECTION added to digester house showing chip feeding hatch; MASON-NEILAN instruments in panel with other recorders of steam, etc.; big CRANE valve at right center.

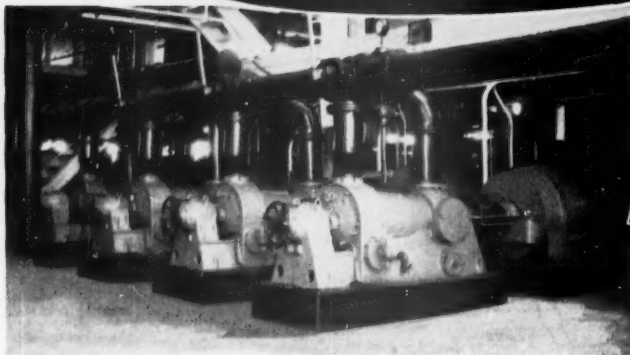
SECOND VIEW—CLEANED, SELECTED pulpwood drops into American Manganese Steel conveying chain feeding chipper. This is new installation to serve mill's greater capacity. Photo at Hollingsworth & Whitney.

THIRD VIEW—WARREN STEAM PUMP CO. water pump and seal tank for washers in new Kanyr bleach plant erected as part of Hollingsworth & Whitney Co.'s Mobile, Ala., mill by SANDY HILL IRON & BRASS WORKS.

RIGHT—KOPPERS CONTROL BOARD for electrostatic precipitator at the Hollingsworth & Whitney Co., Mobile, Ala., mill. This is newest of two precipitators installed in recovery plant since 1948.



at the
H&W CO'S MOBILE MILL
 MONEL PIPING WAS FABRICATED
 by **RIVES**

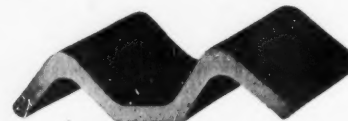
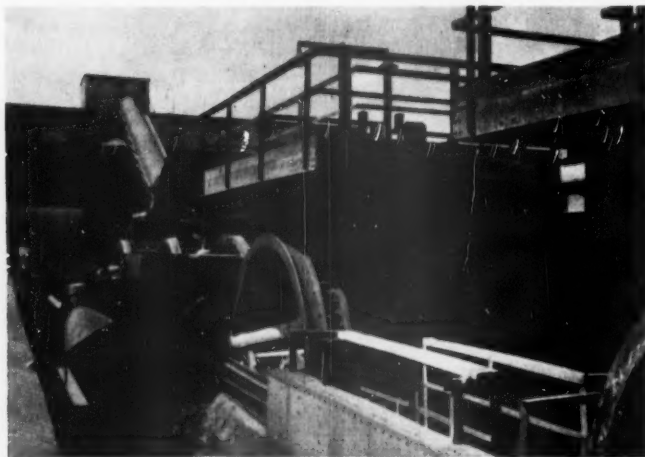


ANOTHER SOUTHERN MILL *Chooses* "RIVES"

FOR ENGINEERING AND FABRICATION OF STAINLESS ALLOY
 OR MONEL PIPE & FITTINGS

W. L. RIVES CO. Manf. 5318 WEST BEAVER ST. P.O. BOX 6206, JACKSONVILLE 5, FLA. • PH. 3-0392—2-0393

**BARK HARD OR SOFT WOODS UP TO 8' IN LENGTH WET...DRY...OR COMBINED
 DRY AND WET WITH F.M.P. WELDED M-BAR BARKING DRUMS**



M-Bar—Hot Rolled

Exclusively used in F.M.P. drums
 Welded and riveted to heavy ship channels

119- barking drum sales since 1947
 (99- 12' D. x 45' L. - 11- 12' D. x 67½' L. - 9 misc.)

Barking drums can be furnished with long
 or short column steel frames to fit cus-
 tomer's requirements. Drumshells shipped
 completely shop-assembled.

The two 12 x 45 ft. Fibre Making Processes barking drums nearest the camera were installed as
 part of the mill expansion of **HOLLINGSWORTH & WHITNEY** at Mobile, Ala.
 Built-up drumshells and steel frames fabricated at Birmingham, Chicago, and Greenville, Pa.

FIBRE MAKING PROCESSES, INC.

Tribune Tower, Chicago 11

Russ Bldg., San Francisco 4

Manufacturers of Barking Drums since 1915, welded drumshells since 1933



designs... constructs

**FOR THE
PULP AND PAPER INDUSTRY**



Photograph shows the modern HOLLINGSWORTH & WHITNEY Kraft Pulp and Paper Mill in Mobile, Alabama.

The original plant was built by Rust in 1939-'41. New additions, completed in 1952, were constructed by Rust to nearly double the output.

A unique feature is the Bleach Plant, designed and constructed by Rust, embodying for the first time the Sliding Forms principle of Monolithic concrete construction.

Rust plays a leading role in the expansion of the nation's pulp and paper making industry. Facilities in which Rust has participated, located in 16 states, represent total annual production well in excess of 1,000,000 tons.

These mills utilize both sulphate and sulphite processes in the manufacture of pulp, paper, wall board, felt and insulating materials, also dissolving pulp and synthetic fiber.

Other applications of Rust know-how are found in such auxiliaries as power plants, bleach plants, wood yard and water supply facilities, by-product chemical plants and efficient disposal. Allied industry activities include bag, paper box and other manufactured products.



THE RUST ENGINEERING CO.

— and Subsidiary Companies —

PITTSBURGH 19, PA.

BIRMINGHAM 3, ALA.

Western Sales Offices:
Los Angeles, Portland

•
Offices in Other Principal
U. S. and Canadian Cities

P-1

February 1953

51

chimney was constructed by Rust Engineering.

Other Installations

Additional electrical energy is produced by a General Electric Co. turbogenerator rated 6000 KW at 80% power factor, and taking steam at 550 lbs. and 725° F. with exhaust pressure at 30 lbs. psig.

Increase in the productive capacity of the mill required additional supply of pure process water. To secure this additional supply it was necessary to increase the capacity of the water treatment plant to 26 million gallons per day. This was accomplished by the addition of one Dorco flash mixer, two flocculators and two clarifiers; two alum feeders; and six rapid sand filter units with controls and instruments by Builders-Providence, Inc. The operation of the water plant is in accordance with standard procedures. Chlorination equipment for water treatment was supplied by Wallace & Tiernan.

To supplement the general mill expansion it was also found necessary to make some alterations in existing facilities. Outstanding among these improvements were those to the pulp dryer and the cylinder paper machine.

The following served in the expansion program:

Fay, Spofford & Thorndike, Boston—consulting engineers for pulp and paper mill, water supply and water treatment plant.

The Rust Engineering Co., Pittsburgh, Pa.—consulting engineers for wood preparation, bleach plant and auxiliary buildings and general contractor for the whole program.

Benjamin F. Shaw Co., Wilmington, Del.—piping sub-contractor.

Victory Electric Co., Mobile, Ala.—electrical sub-contractor.

Stebbins Engineering & Mfg. Co., Waretown, N.Y.—tile tanks and linings sub-contractor.

Good Housekeeping

Of special note, and a tribute to Mobile mill management is the appearance of the grounds and the mill now that the construction crews have departed. Long years of effort have earned the Mobile mill a well-deserved high reputation for "good housekeeping." The management has associated good housekeeping with the safety of its men and the quality of its products, and the results of both programs have been notable.

FOR AMERICAN CYANAMID CO.



GEORGE E. FROMM (left), of Paper Chemical Department, American Cyanamid, is setting up new headquarters at 3505 North Kimball Ave., Chicago 18, Ill., as new Western Regional Manager. This is a new position and responsibility, heading paper industry sales from Pennsylvania and Ohio all way to California and British Columbia—the Midwest, Lake States and Pacific Coast. He has headed Rosin and Wax sales out of New York; has been with Cyanamid 13 years. Born in Chillicothe, Ohio, he graduated from Ohio State in chemical engineering and started in the industry with Mead Corp., working in all phases of technical service, development, chemical control, operation, etc.

J. E. (Ed) GARRISON (right), who has been given title of Northwest District Manager for Paper Chemicals Dept., of American Cyanamid, and who continues in Seattle offices at 2203 First Ave. So. Mr. Garrison's duties hereafter will be concentrated entirely in the pulp and paper industry. Heretofore, his work involved paint and resins fields, too. Born in Illinois, he attended U. of Illinois, joined Cyanamid in California 28 years ago.

JAPANESE INSPECT ALASKA FORESTS

IN THE OFFICE OF C. T. TAKAHASHI & CO., Seattle, where they made temporary headquarters, this picture was taken of the Japanese Technical Mission, just before it left for Alaska. Left to right: Takuji Oshima, managing director of the Council for Integrated Counter-Measures for Forest Resources; Jun Monma, manager, Nagoya Branch, Akita Lumber Co.; Jugo Tanaka, chief, Forest Products Section, Forestry Bureau, Agricultural and Forestry Department; Noriyuki Aida, staff member, Kokoku Jinken Pulp Co.; Shingo Takahashi, director and manager of Forestry Department, Tohoku Pulp Co.; Sakae Fukuyama, managing director, Honshu Paper Co., and Togoro Sakata, executive director, Mitsui Lumber Co.



A Japanese technical mission was making a survey of the Tongass National Forest in Alaska during January and will report back to its government in Tokyo on the feasibility of a forest products industrial development in Alaska to relieve shortages in Japan.

Before leaving for Juneau, Alaska, where their tour of from four to six weeks was planned in collaboration with the U. S. Forest Service, the chairman of the mission, Takuji Oshima, told PULP & PAPER in Seattle.

"We are merely a fact-gathering group and have no authority to negotiate for the timber or make any plans for, financing or organizing the project. We hope to inspect the timber, at many locations from Juneau to Ketchikan; also to investigate power resources, potential mill and town sites, and to gather cost data. If our report is received favorably, then the Japanese and

the United States governments probably will continue negotiations which began last October when a Japanese diplomatic mission visited Washington, D. C."

A United States government loan or investment appears to be an essential feature of the project unless American private capital is involved. If there should be a subsidy involved, the question is raised by private interests as to whether it would be better to buy from existing manufacturers of pulp and lumber, instead of setting up a new enterprise in Alaska at this time.

Any plant in Alaska would have to be incorporated under American laws, and probably be at least 51% American-owned. The U. S. Forest Service requires that Alaska timber must be processed there into lumber or pulp before export.

While the Washington, D. C. mission from Japan did discuss possible importation of Japanese labor, that idea is now understood to have been dropped. U. S. labor laws and policies probably would

prevent any importation of labor.

Junichiro Kobayashi, president of the Council for Integrated Counter-Measures for Forest Resources, headed the three-man mission to Washington which met with State, Labor and Interior Department officials and the Forest Service.

Mr. Oshima, head of the group which went to Alaska, is managing director of the same Council in Japan. He had two pulp industry, one paper industry, and two lumber industry leaders, as well as a Japanese official of the Forestry Department with him.

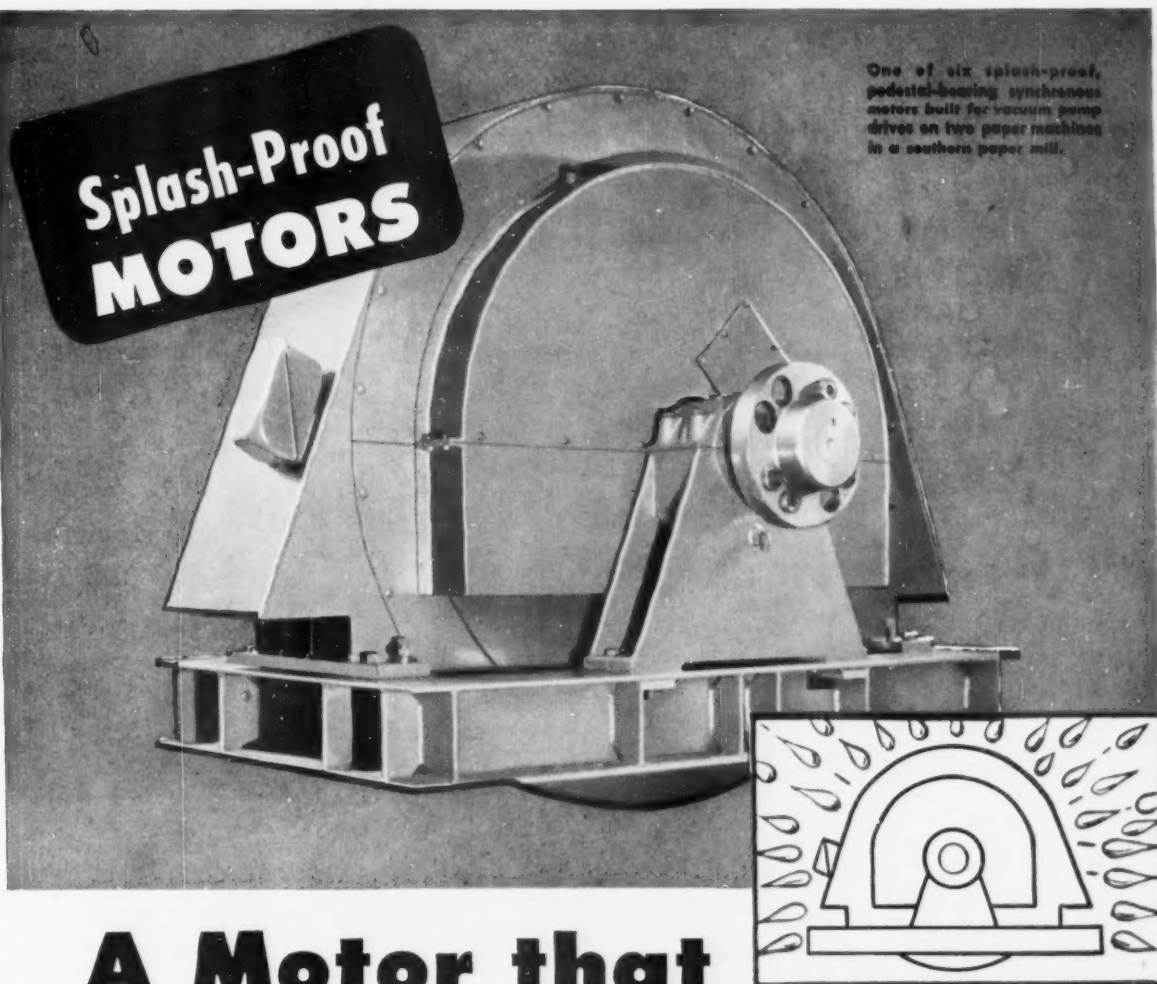
The Japanese are considering a sawmill operation in Alaska at first. Later, if funds are available, this might be expanded to include pulp.

PULP & PAPER was told by Mr. Ochida that Japan is shipping annually 360 million bd. ft. of finished lumber to war purposes in Korea, which is more than 10% of its total production, and besides this, is making considerable additional lumber for military uses in Okinawa and elsewhere in Japan.

The annual shortage of timber for pulp and lumber is estimated at one billion board feet, which is about equivalent to what Japan formerly obtained from Siberia and Sakhalin.

Groundwood Bleaching

Using the peroxide process developed by du Pont, Minnesota & Ontario Paper Co.'s International Falls plant began the production of bleached groundwood pulp recently. Now 100% bleached pulps are used in paper on all three machines at International Falls. Mando has been bleaching its kraft and sulfite pulp nearly two years.



A Motor that NEEDS NO PAMPERING

YOU CAN put motors like this to work just about anywhere in a paper plant because their splash-proof design keeps water and other liquids out.

This design enables you to locate driven equipment for maximum installation economy and efficiency . . . without resorting to special motor housings or separate motor rooms.

Built-in protection—meeting NEMA standards for splash-proof construction—offers you a *threefold* saving in operation: (1) Maintenance costs are re-

duced. (2) Down time is minimized. (3) Motor life is lengthened.

By specifying Allis-Chalmers motors, you gain all these advantages *plus* sturdy fabricated-steel stator yokes . . . securely held windings processed for long insulation life . . . liberally proportioned bearings . . . and many other details that contribute to low-cost operation.

You can get these features in all ratings used in the paper industry. And you can be sure that each motor will be engineered to fit your power supply

requirements and the grinder, chipper, pump, or other equipment with which it is to be used.

More information about large pedestal-bearing motors is available for ready reference in the following bulletins: 05B7648 (low speed synchronous); 05B7649 (high speed synchronous); 05B7771 (induction).

Ask your nearby A-C representative for copies of these three illustrated bulletins, or write to Allis-Chalmers, Milwaukee 1, Wisconsin.

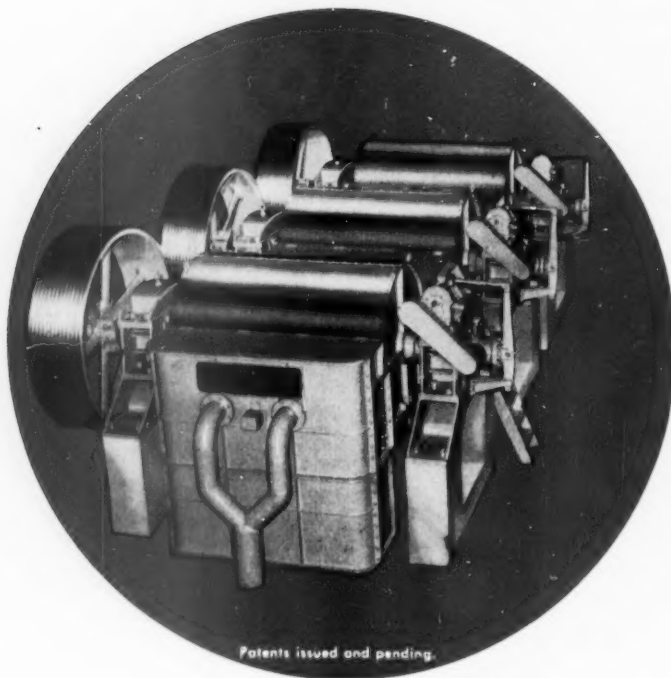
A-3586

ALLIS-CHALMERS



THERE IS NO SUBSTITUTE FOR PROVEN PERFORMANCE!

only the



ONLY PERFORMANCE ON THE JOB CAN PROVE A BEATER!

PROVEN! Highest effective, predictable refining capacity. Roll has greatest possible number of bars. Stock spread in even film across full face of roll in continuous flow; untreated stock cannot pass through. Single Roll treats batches as small as 500 pounds, Multi-Roll as much as 200 tons or more per day — 1000 gallons per minute if desired.

PROVEN! Pressurized bedplates exert hydraulically-controlled upward pressures up to 40 tons, an impossibility in any other beaters!

PROVEN! Flexibility of design and completely automatic controls allow "tailored to your plant" installation. Can be made in stainless steel. Many types of stock chests in use on other floors, above or below Victory Beaters. Motors can be mounted at top to conserve floor space if desired. Shipped complete on flatcars, ready to install.

PROVEN! Costs less to operate on equivalent stock than any other beater ever installed in any paper mill in the world . . . reflecting the experience of a half century of pioneering in the manufacture of paper mill machinery.

VICTORY BEATER

can offer facts like these:

- **FIRST IN THE FIELD, ALONE IN EXPERIENCE!**
- **THE ONLY BEATERS OF THEIR TYPE IN ACTUAL OPERATION!**
- **EXCLUSIVE, PATENTED FEATURES PROVEN ON THE JOB!**

In 1946, The Noble & Wood Machine Company announced the first and only radical, major change in beater design and construction in 336 years. In 1946 the first Single Roll Controlled Flow Victory Beater was delivered to a New England fine paper mill. It is still hard at work, 100% efficient . . . the first of many Victory Beaters that earned their welcome in the industry.



In 1949, a Multi-Roll Controlled Flow Victory Beater roared into action in a Florida Kraft mill. Today, after more than 26,000 hours of continuous operation (over 3 solid years, day and night without a shutdown for mechanical difficulties!) this powerful triplex unit is still operating as efficiently as the day it started.

Impressive proof? The mill thought so and installed 2 more Victory Beater triplex units.

In other mills in various parts of the world, Noble & Wood Victory Beaters — the first and only beaters of their type in actual operation — tested and proven since 1946 — are *on the job*.

Remember, *there is no substitute for proven performance*. We respectfully invite your inquiries and will supply you with immediate information. You can appraise for yourself, on the basis of actual record, the potential value of the Victory Beater in your papermaking operation.

THE NOBLE & WOOD MACHINE CO.

Paper Mill Machinery

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MORE DIVERSIFICATION BY WEYERHAEUSER LONGVIEW BOARD MILL



J. P. (PHIL) WEYERHAEUSER, JR. (left), President of Weyerhaeuser Timber Co.

HOWARD W. MORGAN (right), Manager, Pulp Division, Weyerhaeuser Timber Co.

Headquarters for both are in Tacoma, Wash. In past decade, Weyerhaeuser's income from pulp and paperboard has more than tripled. It now represents about one-sixth of its sales.

At the Longview, Wash. operations of Weyerhaeuser Timber Co., where forest products already were perhaps more widely diversified than anywhere else in the industrial world, wood utilization has again been intensified and finished products further diversified. In late August production started at the company's new 200-ton per day bleached kraft paperboard mill.

This makes a total of two market pulp mills (sulfite and sulfate), in addition to the new board mill at Longview, and five market pulp and board mills in Oregon and Washington, with total production capacity of 1340 tons of pulp daily.

The Weyerhaeuser firm, established in 1900 as a timber concern, later became a large manufacturer of lumber. It made its

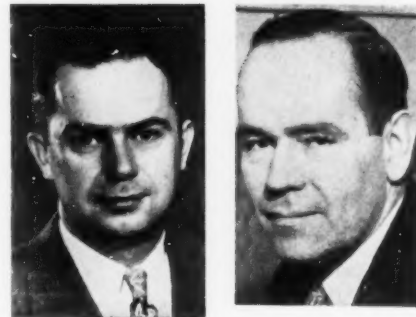
debut in the pulp field in 1931 with its Longview sulfite mill,—which during early postwar years was successfully converted from the calcium to MgO base process, and now produces bleached pulp at 300 tons daily.

Now the company's Pulp Division includes: Sulfite pulp mill, built in 1936 at Everett, Wash., with present capacity for 300 tons of bleached pulp per day; bleached kraft pulp mill, built at Longview in 1948, 240 tons; kraft linerboard mill, built in 1949 at Springfield, Ore., 300 tons. Another 300-ton bleached kraft pulp mill, now under construction at Everett, is scheduled for start-up in mid-1953.

Wood Utilization

Intensive utilization of its timber harvest continues to keynote the organization's production and processes through integration and diversification of its manufacturing program. The company-owned 430,000-acre St. Helens Tree Farm is tributary to and provides raw product wood for the 670-acre Weyerhaeuser industrial center at Longview. This includes three sawmills with production capacity totaling a million board feet of lumber per day, a plywood plant rated at 80 million square feet per year, bark products plant and Pres-to-log plant in addition to the new paperboard mill and two pulp mills.

The sawmill, sulfite pulp mill and plywood plant operate on merchantable logs but the others subsist largely or entirely on milling and logging leftovers. As result of the grouped, diversified processing components, integrated through extensive mechanical handling and conveying sys-



RAYMOND E. BAKER (left), Manager of Pulp Division operations at Longview, Wash. **GERALD F. ALCORN** (right), Pulp Div. Construction Engineer, was in charge of engineering, design and construction of new mill and is now in Everett, Wash., in similar capacity for new bleached kraft pulp mill being built there. He previously assisted Otto C. Schoenwerk in building the first Longview kraft mill for Weyerhaeuser; before that, was Plant Engineer at Everett.

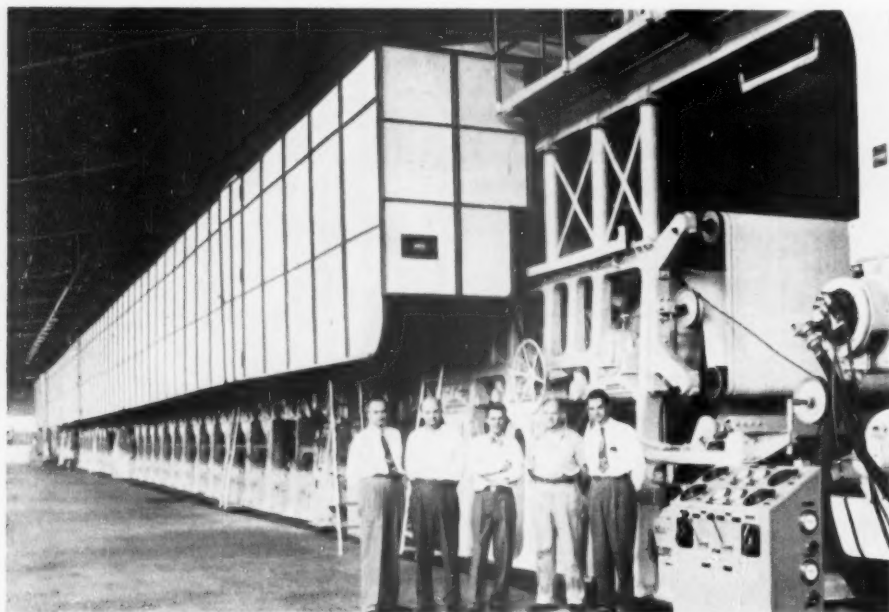
tems, utilization of wood and bark has here reached what is currently considered to be tops in utilization of harvested forest products. Nothing is wasted. Every portion of each log is utilized through processing into utility products, all marketed except a small percentage of the byproduct wood used as fuel to carry on the production processes.

Furthermore, the company's specialized timber harvesting program carried on in its managed tree farms results in higher yield of wood per acre than was economically possible in past years. The main harvesting program calls for three separate operations:

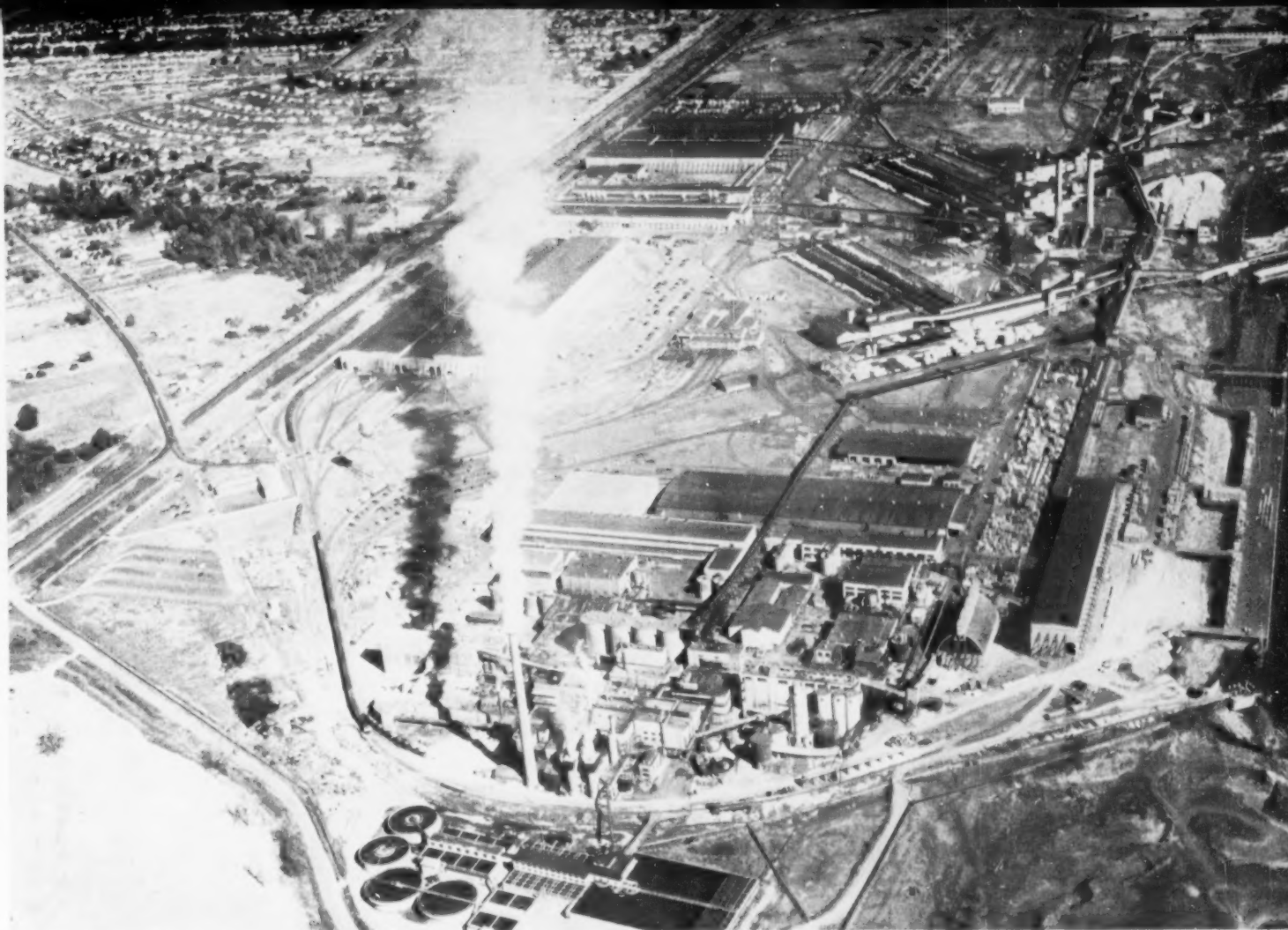
1. First phase is prelogging of the area to remove smaller hemlock and cedar which formerly was often damaged or destroyed in the process of harvesting the larger timber. This first salvage harvest phase takes place shortly after logging roads penetrate the tract. Light specialty equipment is used for removing this small timber which seldom exceeds 16 in. diameter.

2. Next comes the conventional harvest of big logs, clear cutting of small staggered areas, leaving stands of intermingled timber to assure adequate seed source for reforestation in even-age stands.

3. Before the new seedlings show up, the logged-over land is relogged with light equipment to remove any remaining wood, in log or chunk form, which can be



HARRY C. MOORE, President of Beloit Iron Works, (at right in this group), visited the new bleached kraft paperboard mill of Weyerhaeuser Timber Co. at Longview, Wash., shortly after the 216 in. Beloit Fourdrinier Machine started up. Left to right, in this picture, are: **RAYMOND E. BAKER**, Manager of the Weyerhaeuser Pulp Division at Longview; **ARTHUR ERICKSON**, Chief Chemist; **EDGE WENNBERG**, Supt. of Paperboard Manufacture; **LARRY SIMMS**, Shift Foreman, and Mr. **MOORE**.



utilized by any of the various plant operations.

Some wood is also obtained by thinning second growth stands. By this system small understory trees, which would die if left undisturbed, are harvested and utilized.

Logs arrive at the Longview plant site by rail car. The small logs, bundled and strapped into units appropriate for mechanical handling, are hoisted from cars to breakdown table ahead of a small-log hydraulic barker. The other logs are dumped into the Columbia River and sorted by species, grade and size for routing to different processing components. Almost every type of log, regardless how poor its appearance, fills a need for raw material.

Logs most suitable for lumber and plywood are routed primarily to those mills. The smaller logs and wood chunks, augmented by by-product wood, go into pulp. Hemlock and white fir logs go to the sulfite mill; the kraft mills principally use Douglas fir.

Logs enroute from rail car to the mills are hydraulically barked (except peeler logs, which are barked by a mechanical pressure barker in the plywood plant) at one of the five hydraulic barkers at Longview branch—two barkers at sawmills and three at pulpwood preparation. One of the latter is a small log-cordwood barker. Not only are pulp logs thus freed of bark, but so are most of the sawlogs.

The Longview Weyerhaeuser operations pioneered the hydraulic barking of sawlogs. As a result of the complete removal

THIS IS A NEW AIR VIEW of the 670-Acre Forest Products Industrial Center of Weyerhaeuser Timber Co. at Longview, Wash. In near foreground is Infilco water treatment plant. Also in foreground, but across road from water plant, are Pulp Division units—the Magnesia Base Recovery buildings, the Sulfite and Kraft Market Pulp Mills and new Kraft Paperboard Mill. Plywood and Bark Products plants are in

of bark and dirt by hydraulic barker before the logs enter the sawmills, the slabs and leftovers are suitable for conversion to high quality pulp chips. Thus the sawmill waste, formerly an inferior source of pulp chips, has become a most desirable source of raw product wood for pulp. Furthermore, this has proven an important factor in furthering wood utilization, from both an economic standpoint and also in making possible higher quality pulp and paper, and better lumber production. Slabs, trims and edgings resulting from manufacture of lumber in sawmills are clean, bark-free pieces of wood immediately available for converting to pulp chips.

As a part of its full utilization program, Weyerhaeuser constructed another plywood plant this year at Springfield. This unit started up less than a month ahead of the new Longview kraft paperboard mill. A hardboard plant is currently under construction at Klamath Falls, the firm's Southernmost production branch, and a Silva-cel (fiber product) plant is going in at Snoqualmie Falls, both to operate on sawmill leftovers.

This integration-utilization program of Weyerhaeuser Timber Co. has been progressively effected by installing additional

extreme top right. Three big lumber mills and planing mills are in middle areas and dock and storage at lower right on the Columbia River. Note long tubular enclosed chip conveyor coming from sawmills and down through Pulp Division. Long building to left of last section of conveyor is the new Paperboard Machine Room. Here is one of most diversified and largest wood utilization centers in the world.

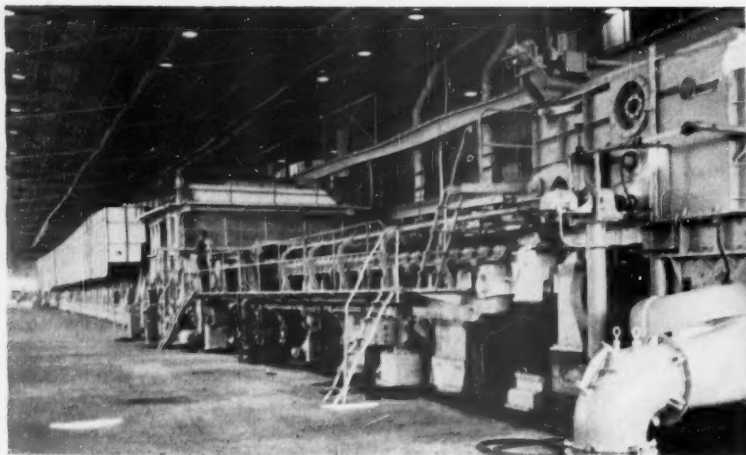
plant facilities and developing processes to make more products from its timber harvest. The new paperboard plant, according to Pulp Division Manager Howard W. Morgan, "marks a further step in our continuous development of manufacturing facilities to use completely and efficiently our forest raw materials to make products to serve West Coast markets."

The new Longview installation produces bleached kraft sanitary foodboard for milk, cottage cheese, butter, ice cream, and other dairy product cartons, also frozen food containers, bakery cartons, paper cups and plates, and other specialties. Sales of the paperboard will be handled by the Pulp Division sales department.

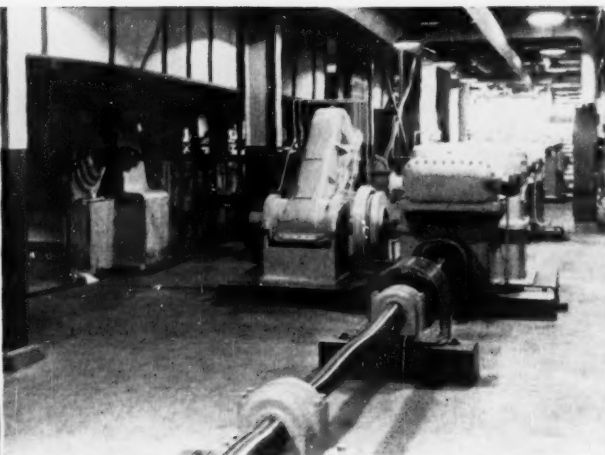
General Construction

L. H. Hoffman of Portland, Ore., general contractor for the expansion project, pointed out that construction presented some problems as most new buildings or structures (total of 16) were connected to existing structures. Consequently considerable planning had to be done in order that new construction work did not interfere with production in the existing plant.

At no time did the existing plant lose production because of new construction work—all necessary cut-ins for struc-



LEFT—BELOIT'S AIR-CUSHIONED INLET and removable Four-drainer are among features of the new 216 inch Beloit machine in Weyerhaeuser's new Kraft Paperboard Mill in Longview. **DREW ENGINEERING** provided hood and air system. There are 61 paper dryers.



RIGHT—THE BELOIT MACHINE at Longview, Wash., Paperboard Mill is one of first in country to have this Differential Drive developed by Beloit Iron Works. Only in recent machines has this drive been provided for an entire machine. **LINK-BELT** provided PIV Units for draw control.

tural, electrical and piping work took place during normal mill shutdowns. Mr. Hoffman said "this was accomplished by close cooperation between operating departments and the construction forces."

Quantitatively the expansion lined up as follows:

Concrete, 15,500 cu. yds.; reinforcing steel, 1,000 tons; structural steel, 2,000 tons; piling, 6,000 (no.); conduit, 40 miles; piping, 24 miles; wire, 190 miles; motors, 461 (no. of units); horsepower, 17,747 H.P.; Transite, 939 sqs., and roofing, 1,147 sqs.

Wood Preparation

An additional hydraulic barker and two more chippers make a total of 12 primary chippers and five hydraulic barkers at Longview. These new components do not directly tie up with any particular one of the three pulp mills, but contribute to the general supply for all. No additional chip transport facilities were needed between chipping plants (located in the lumber division plant area) and chip storage as the

existing 30 in. belt conveyor system was designed and installed for the original kraft mill with view to subsequent addition of the third pulp mill.

A 43-in. Hansel hydraulic ring barker was installed in a building housing one of the other two Pulp Division barkers. A Bingham pump, powered by 900 h.p. General Electric motor, provides the barker with water at 1300 p.s.i.

The new chippers are two 8-knife 72-in. Sumners each powered by 300 h.p. General Electric motors, and were installed in No. 2 sawmill chipping house, making a total of four chippers tributary to this one sawmill. Bulk of chips for the two kraft mills comes from sawmill waste wood, any additional chips needed over and above supply from this source coming from the Pulp Division whole log chippers.

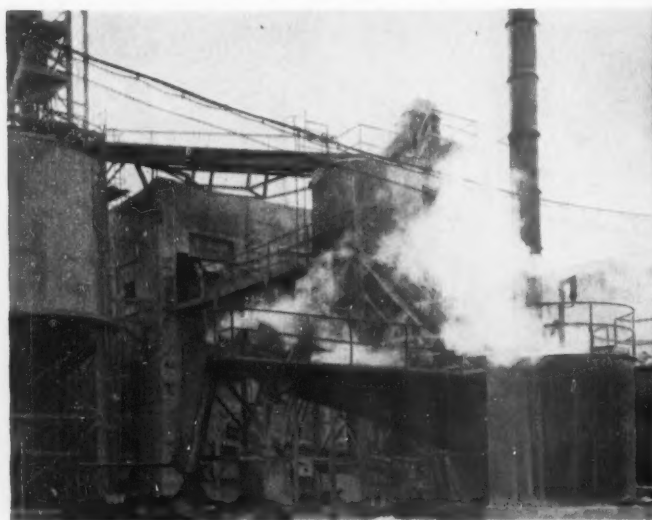
Pulp Mill Additions

Four Lukens passivated stainless steel clad digesters were among the earlier installations of the recent kraft mill expansion. As a result of previous experience

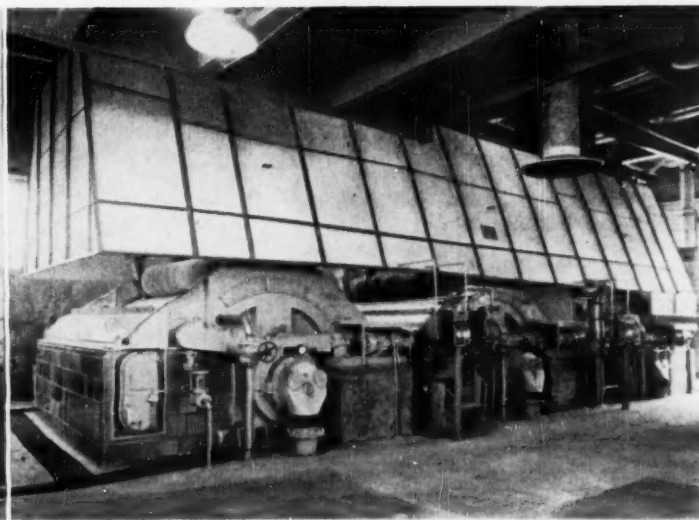
with carbon steel digesters, the new units were welded with the Lukens cladding. The digesters have indirect Electric Steel Foundry Co. heating systems, including 660-sq. ft. heat exchangers of 2-pass, fixed tube sheet design with all liquor contacting parts of solid stainless steel. Also included were four complete sets of ESCO's patented cast stainless steel strainers. Each digester has ESCO cast stainless bottom digester fittings.

Chips feed into these 11-ft. 2-in. by 48-ft. 7 $\frac{3}{4}$ -in. digesters through Link-Belt spout-and-lid lifter mechanism. Each digester is equipped with a Foxboro control panel.

Cooked chips and cooking liquor discharge to the blow tank, fabricated by Hydraulic Supply Mfg. Co. of Seattle, and capable of safely holding three cooks. Steam and vapor from the blow tank go to jet condenser of the old mill, the hot water stored in old hot water accumulator. An Ingersoll-Rand pump and three ESCO liquid-to-liquid heat exchangers of



LEFT—NEW DORR SLAKER CLASSIFIER added at Weyerhaeuser Longview operations. Dorr Co. provided new causticizing equipment for liquor making.



RIGHT—EIGHT IMPCO WASHERS in continuous bleach plant have **LOUIS ALLIS** Adjusto-Spede drives, **DREW ENGINEERING** heating-ventilating system, **STEBBINS SEMTILE** vats in Longview additions.



B&W

RECOVERY UNITS SERVE 3 MILLS OF

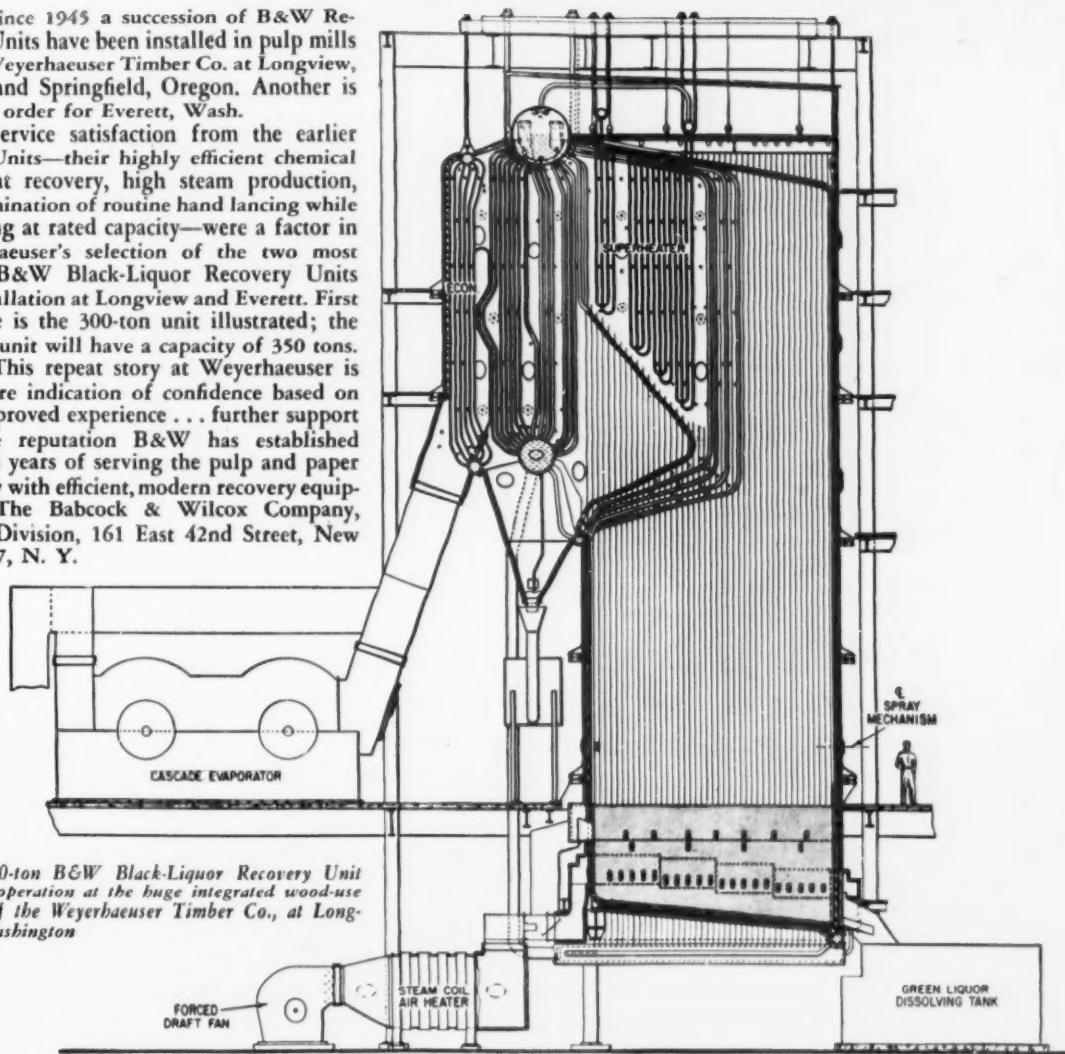
PULP
DIVISION

WEYERHAEUSER

Since 1945 a succession of B&W Recovery Units have been installed in pulp mills of the Weyerhaeuser Timber Co. at Longview, Wash. and Springfield, Oregon. Another is now on order for Everett, Wash.

Service satisfaction from the earlier B&W Units—their highly efficient chemical and heat recovery, high steam production, and elimination of routine hand lancing while operating at rated capacity—were a factor in Weyerhaeuser's selection of the two most recent B&W Black-Liquor Recovery Units for installation at Longview and Everett. First of these is the 300-ton unit illustrated; the Everett unit will have a capacity of 350 tons.

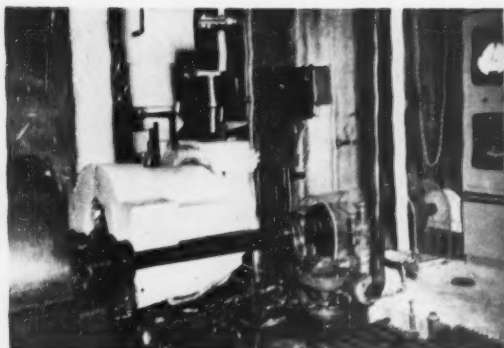
This repeat story at Weyerhaeuser is one more indication of confidence based on service-proved experience . . . further support for the reputation B&W has established through years of serving the pulp and paper industry with efficient, modern recovery equipment. The Babcock & Wilcox Company, Boiler Division, 161 East 42nd Street, New York 17, N. Y.



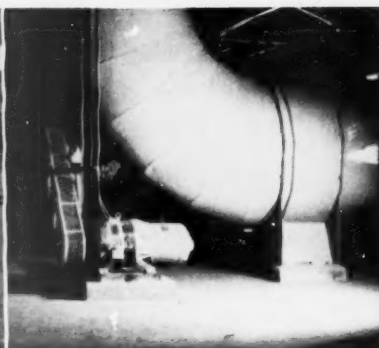
New 300-ton B&W Black-Liquor Recovery Unit now in operation at the huge integrated wood-use center of the Weyerhaeuser Timber Co., at Longview, Washington



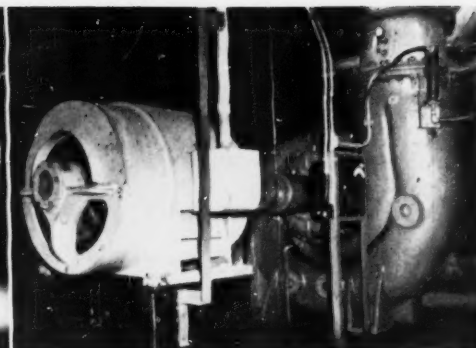
BABCOCK & WILCOX



LEFT—GENERAL ELECTRIC 1500 HP TURBOGEAR powering Beloit differential machine drive at Longview mill of Weyerhaeuser.



MIDDLE—LOUIS ALLIS AJUSTO-SPEDE 15 HP drive on DREW ENGINEERING machine room ventilating system.



RIGHT—BINGHAM 20,000 GPM FAN PUMP powered by 2,300-Volt 250 HP motor in the new Weyerhaeuser mill.

2-pass design were installed in the blow heat recovery system.

Equipment for blow tank includes Hydraulic Supply agitator and Pacific-Western Gear reducer. A Warren 2,000 g.p.m. stock pump transports stock up to IMPCO vibratory deknotters where knots are removed prior to washing.

The brown stock washers driven by Louis Allis Ajusto-Spede 15 h.p. motors, have a heating and ventilating system by Drew Engineering. The exhaust hood over washers, suspended from roof beams, is designed for removal of any one washer drum without dismantling the

hood. Brown stock washing instrumentation consists of a graphic panel using Taylor miniature strip-chart recorders and controllers.

Counter-current washing is done on a line of three 8-ft. by 16-ft. IMPCO brown stock washers with intermediary repulpers. Each filtrate tank has relief line that is vented to a foam tower equipped with IMPCO foam breaker.

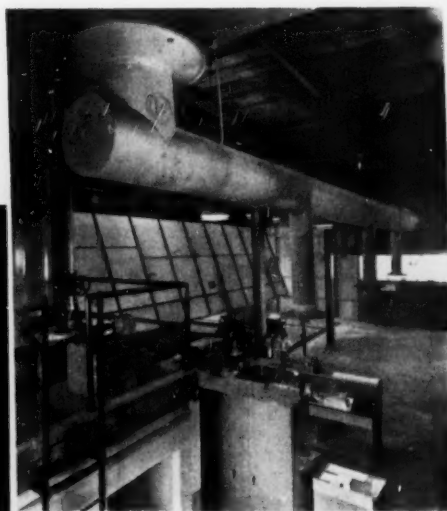
After stock leaves the third brown stock washer, it is repulped and then pumped to a storage chest at screen room. From there it is diluted and goes to IMPCO flat screens and then to open

cylinder deckers. Previously, these screens (located in old mill) processed both bleached and unbleached kraft, but addition of ten IMPCO Lindblad vibratory screens for bleached pulp screening allowed using these flat screens for unbleached stock only. Five of the screens are in the old machine room ahead of the Vortraps and are operating as an integral part of the bleached kraft drying machine. Deckered stock can go to either the old or new bleach plant through DeZurik control valves.

New Bleach Plant

The new bleach plant has fully continu-

at WEYERHAEUSER TIMBER COMPANY'S Complete MILL VENTILATION FOR MAXIMUM EFFICIENCY OF MEN AND MACHINES



ous flow operation rather than batch system which is used in the older kraft mill bleach plant. It has gaseous chlorine handling system designed by Hooker, a continuous system automatically metering Pennsalt liquid chlorine from car through vaporizer to chlorination tower.

Stock from low density storage goes to DeZurik consistency regulator and IMPCO stock meter installed in Stebbins tile vat located in the bleach plant on a mezzanine above the operating floor. Here the metered stock is discharged to bottom of the upflow low density chlorination stock and chlorine and also imparts proper tower where an IMPCO circulator mixes circulation to the stock in its upward flow. The launder ring at top of this tower receives the chlorinated stock from an IMPCO skimmer. Dilution water is added in the ring from nozzles therein. From this point stock flows by gravity to the inlet box of a rubber covered chlorination washer.

The 5-stage high density continuous bleach system uses five 8-ft. by 12-ft. IMPCO washer thickeners powered by Louis Allis Ajusto-Spede 15 h.p. drives and equipped with Drew heating and ventilating system, and Stebbins tile vats.

On each washer there are two air-operated press rolls after the washing showers. Pulp discharges at high density

THEY SELL NEW PRODUCT FOR WEYERHAEUSER



L. K. LARSON (lead), New York, Sales Manager of Weyerhaeuser Pulp Division, who supervises paperboard sales too, and **DONALD H. SEIXAS** (right), with office at 681 Market St., San Francisco, who has joined Weyerhaeuser as Paperboard Sales Representative. He was with American Can Co. for 17 years.

from the washers to a shredder conveyor which feeds stock to double shaft mixers to be uniformly mixed with steam and chemicals. The mixed stock drops from the mixers to retention towers, the bottoms of which are equipped with nozzles and circulators for uniformly diluting stock to 2.5 per cent consistency. After dilution, the stock is pumped to the next washer thickener, and additional dilution

made in stock line ahead of inlet box.

Following last washing, the high density bleached stock is discharged onto a Link-Belt belt conveyor system taking the stock to either of two IMPCO high density Stebbins tile-lined storage chests. In the bottom of these chests the stock is diluted by water from wing nozzles for uniform mixing action. The swing nozzles are set equidistant around the outside of the chest and an agitator with additional water nozzles is located at pump suction. Again to save space, the bleach plant control panel utilizes the miniature Taylor Transet recorders and controllers to measure stock level in high and low density storage tanks, control mixer temperatures, record load on agitators, and record speed of IMPCO stock meter. Foxboro recording controllers with differential pressure cells are used for measurement and control of gaseous chlorine and bleach liquor.

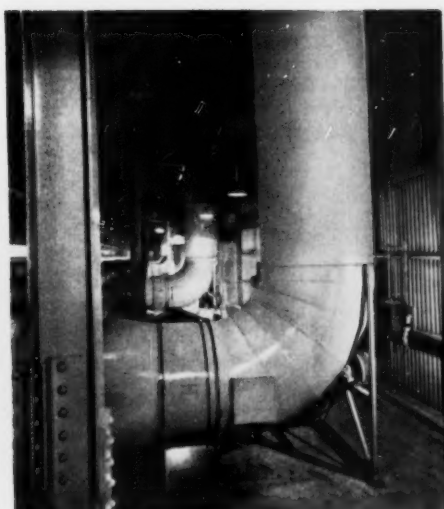
The bleach plant has Stebbins tile vats and linings and stainless steel piping by Northwest Copper Works of Portland, Ore. Several tanks and towers were fabricated and erected by Hydraulic Supply.

Here again the Drew Engineering heating and ventilating system, located on platform suspended from roof includes hoods designed for removal of any one washer drum without dismantling top of

(Continued on page 64)

BLEACHED KRAFT PAPER BOARD MILL, LONGVIEW, WASHINGTON

Dependable PERFORMANCE IN SUMMER AND WINTER OPERATIONS

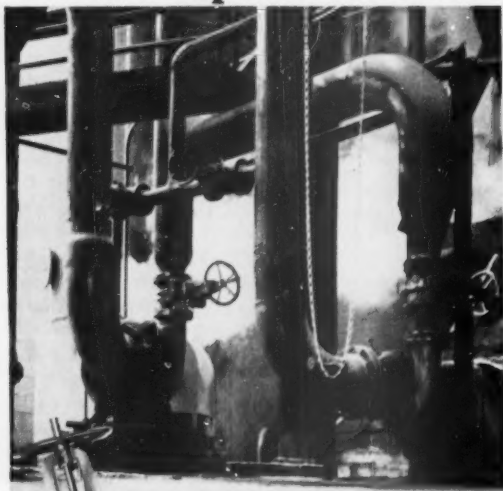


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WEYERHAEUSER Chooses FABRI-VALVE for New Paperboard Plant



New Bleach Kraft Paperboard Mill,
Weyerhaeuser Timber Co., Longview, Wash.



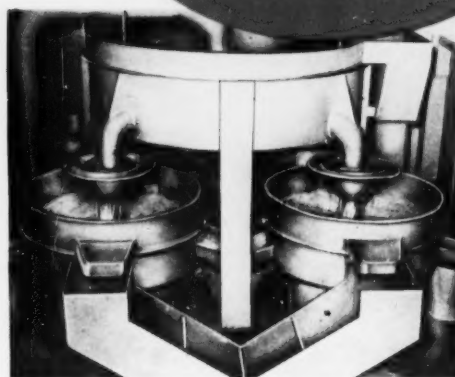
Whether planning a new operation, expansion, or modernization... Fabri-Valve has the type and size valve to fill your need. The high quality valve in any pipe line, Fabri-Valve's more economical construction saves on original price... installation and shipping cost. Precision engineered... rugged and durable, each valve is designed and fabricated to control the flow of solutions with a minimum of maintenance. . . . Fabri-Valves are made from all types of stainless steel, monel or any combination. 2" to 24" Fabri-Valves carried in stock. Custom orders given special attention... filled in 30 days. For more details write direct or contact nearest agent.

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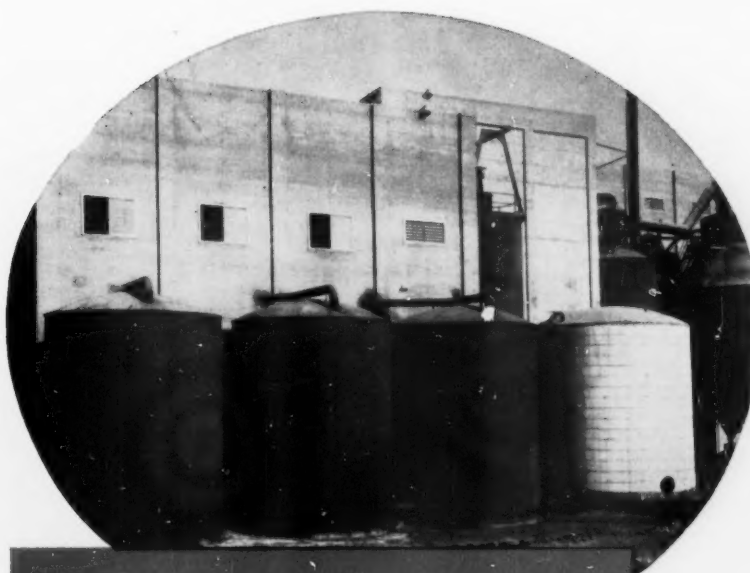
An initial installation of a one 48-inch A-1D8 model SWECO Separator for the removal of bark and fines from hydraulic barker water effluent was made less than one year ago by one of the world's largest wood products producers. The unit solved the problem so successfully that 27 identical SWECO Separators have been installed in the company's numerous mills throughout the Northwest. Whether your problem is one of discharging clean water from the barker or to clean the water for re-use—SWECO Separators have been proven successful in this application using screens as fine as 200 mesh. Both standard and custom-engineered models available.

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INSUL-MASTIC The Superior Coating



... prevents corrosion
and insulates tanks at
Weyerhaeuser's Longview Mill

Here's part of the Weyerhaeuser Timber Company's great new plant at Longview, Washington. The filtrate tanks, foam tank and blow tank that you see are coated with Insul-Mastic Type "D". The company not only prevented corroding of the tanks by using this coating . . . it also insulated them. Type "D" contains a large proportion of granulated cork in a binder of Gilsonite mastic of proven durability and resistance to water, acids and alkalis. The cork prevents 65% heat loss. The mastic prevents corrosion from any chemical agents used in the mill. A $\frac{1}{4}$ " coat of Type "D" is sprayed in one operation . . . saving the cost of insulating plus vaporsealing.

Where moderate insulation is required, specify Insul-Mastic Type "D." Where greater insulation is needed, vaporseal conventional insulation with Insul-Mastic 4010. These *Superior* mastics should last as long as your tanks.

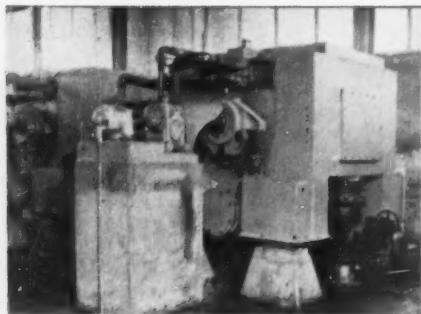
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**CORROSION PROOFING
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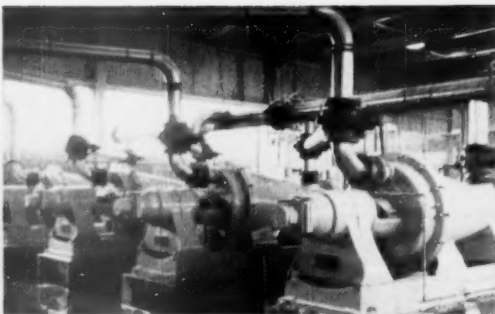
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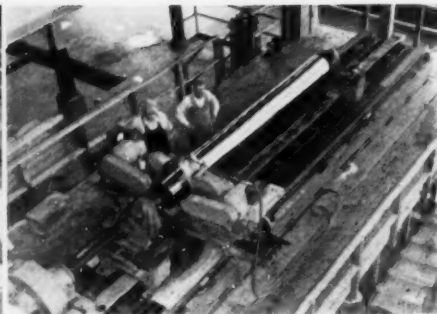




LEFT—IMPCO LINDBLAD SCREENS in stock preparation room in new Weyerhaeuser paperboard mill, at Longview, Wash.



MIDDLE—FOUR JONES MAJESTIC JORDANS, supplied by PACIFIC COAST SUPPLY CO. in stock preparation. Valves by DEZURIK. Stainless piping by NORTHWEST COPPER shows die-form elbow.



RIGHT—LOBDELL-UNITED CO. ROLL GRINDER surfacing calender roll viewed in new Weyerhaeuser additions at Longview.

hood or removing any other drums. A partition inside the hood and additional side curtains around the chlorinating washer serve to isolate this one unit, permitting more positive exhaust of chlorine fumes. Exhaust fan wheels are rubber covered.

Bleached stock from the high density chests is pumped to low density storage chest just outside the new machine room. There this stock and stock from the broke chest are blended at consistency of 2.0 per cent by a DeZurik consistency regulator and then goes to a row of five IMPCO Lindblad vibratory screens, the first processing in stock preparation room.

Screened stock goes to an 8-ft. by 16-ft. Oliver saveall, driven by General Electric-Pacific Western gearhead motor, at Stebbins Semtile headbox and vat on wet end of machine room mezzanine, and then to Brinkley agitator equipped beater chest.

Stock Preparation

As the first refining step in the stock preparation room, stock is processed by two new two-roll Noble & Wood Machine Co. controlled-flow Victory beaters. These are of stainless steel throughout and are continuous beaters. Each roll is powered by 200 h.p. Westinghouse motor (total of 800 h.p.) through Allis-Chalmers 14-strand V-belt. Each Victory beater has a Vickers oil pump, which provides pressure for pressurizing the bed plate, and Noble & Wood control panel. Raw pulp stock is passed through the two beaters

in parallel so that every pound of stock is treated twice, once under each roll of each of the two-roll beaters. This method gives good fiberlation at high capacity and with exceptionally good tear and Mullen values.

A Minneapolis-Honeywell control panel in the stock preparation room controls water flow, rosin and size additions, level and consistency.

Stock from beaters goes to beater chest and subsequently to a battery of four E. D. Jones & Sons Co. Majestic jordans for final processing. These jordans, individually powered by 400 h.p. Westinghouse synchronous motor, have spherical roller bearings, Meehanite GA plug bodies slotted according to full bar support type W design, NOWAVE fillings, telescopic couplings, worm type thrust adjusting mechanism, and can be run either in series or parallel.

Prepared stock discharges from jordans through a stainless steel pipe with die-form elbow to stainless steel stuff box, both fabricated by Northwest Copper, at which point is a DeZurik consistency controller. A Bingham 20,000 g.p.m. fan pump, powered by 250 h.p. Westinghouse, receives from stuff box and delivers to the machine headbox, the flow of stock and white water controlled by an Ingersoll-Rand airmotor-operated valve.

The Paper Machine

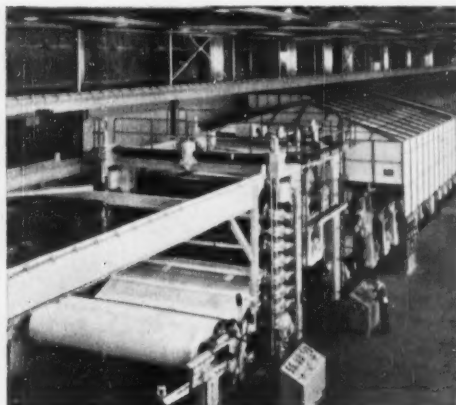
The new Beloit high-production Fourdrinier machine is fully equipped for production of various bleached kraft specialty boards and heavy papers. The ma-

chine produces a trimmed sheet 196 inches wide and has wire speed range of 150 to 1500 f.p.m. Extreme flexibility figured prominently in selection and design of this unit which has rated capacity of 200 tons per day. Production could be increased by using steam or higher pressure. The machine contains 61 paper dryer rolls, 16 felt dryer rolls and three calender dryer rolls.

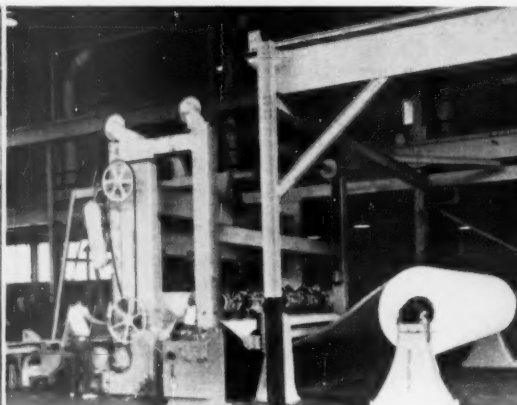
Stock enters the Beloit air-cushioned inlet through cross flow distributor, the level maintained through inlet at a predetermined height by air pressure or by vacuum, depending upon machine speed. Rectifier rolls are used in the inlet. Papermaking adjustments are made exactly as they would be with an open headbox.

The long Fourdrinier, especially suited for heavy weight sheets, is a removable-as-a-unit type equipped with wire 216 inches wide. Stainless steel has been incorporated throughout to protect against corrosion. Beloit Fourdrinier wire guides and high speed shake are used, the shake units driven from a single adjustable-speed direct current motor. The suction couch roll, equipped with double box, was specially arranged for production versatility on wide range of weights. A motor-driven lumpbreaker roll, at the suction couch, has controls for raising and lowering and for automatic raising in case of emergency.

The press section consists of one straight-through suction press and an inverted suction press. This combination of presses contributes to producing similar finish for both top and bottom of the



LEFT—BELOIT MACHINE, DREW ENGINEERING hood and ventilating system from dry end at the new Weyerhaeuser mill in Longview.

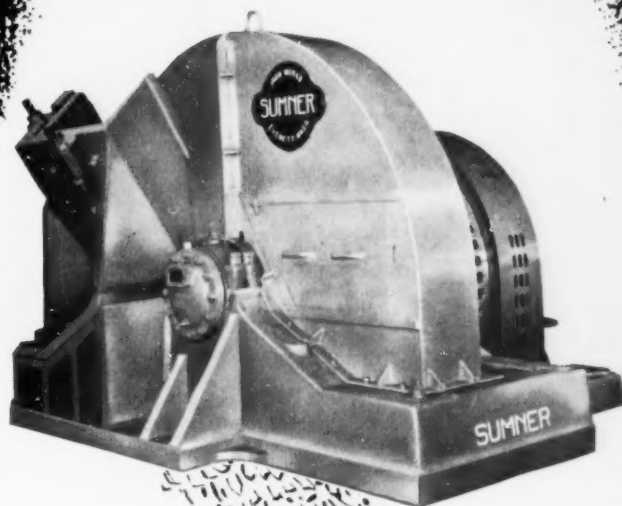


MIDDLE—UNWINDING STAND by Beloit with air diaphragm multiple brake, winder with shears, slitters and roll handling equipment in Longview mill.



RIGHT—DREW ENGINEERING machine room ventilating system on mezzanine supplying air for machine room roof; also dry end at paperboard mill of Weyerhaeuser.

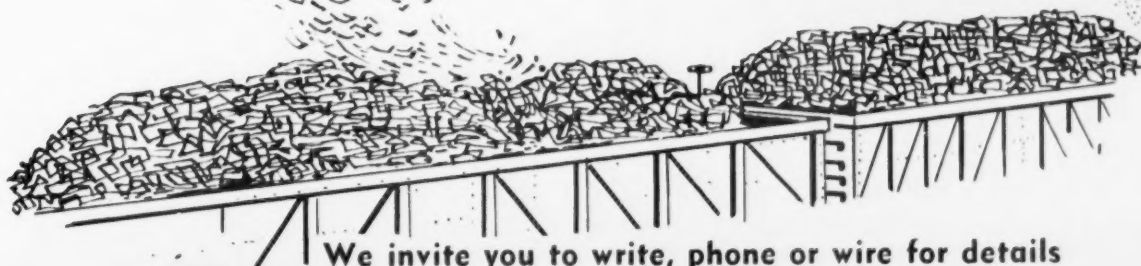
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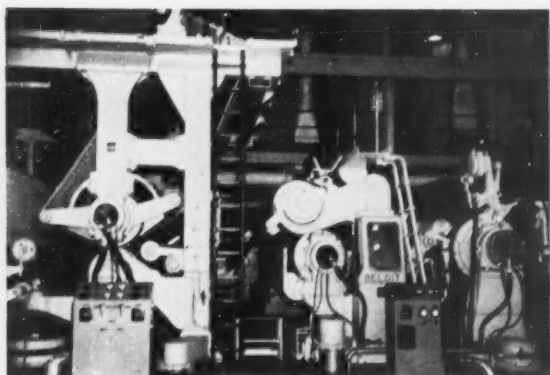
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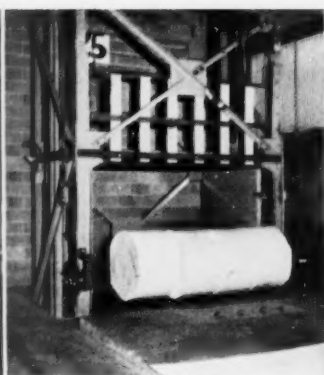
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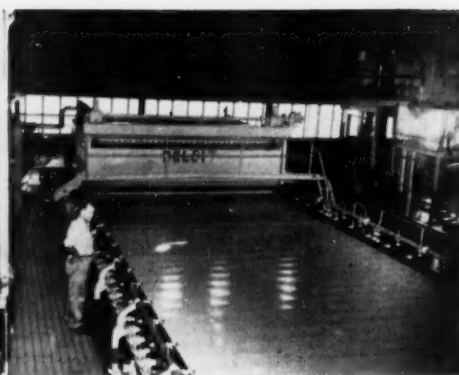
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LEFT—BELOIT MACHINE couch, first press, inverted second press and front of dryer section in new Weyerhaeuser mill, Longview.



MIDDLE—LINK-BELT ROLL LOWERATOR automatically discharging paper onto floor of finishing room in new Weyerhaeuser paperboard mill.



RIGHT—HEADBOX, FOURDRINIER section of Beloit Iron Works machine, Shift Superintendent W. LeRoy Simms at left. Photo taken at Kraft Paperboard mill.

sheet, as well as providing efficient removal of water. The rubber-covered suction press rolls have air-loaded packing strips of Beloit design and presses are air-loaded for maintenance of resilient nip pressure.

Griffith Rubber Mills covered 16 wet felt carrier rolls, 3 worm felt rolls, paper spreader roll and smoothing, size and breaker press rolls.

Raybestos-Manhattan covered a large suction press. On three press rolls, a spare and one breaker slack roll, all 33 in., Huntington Rubber Mills covered with white Micorok and with Neoprene on a 20 in. lump-breaker roll.

The dryer section is of high pressure design, each dryer equipped with high speed condensate remover and duplex steam fit. Front and back dryer frames, of box type construction, have completely enclosed dryer gear drive and back dryer bearings.

A plain straight-through press and a smoothing press operate between first and second sections, breaker stack between second and third, and a size press between third and fourth. All presses are air-loaded. Beloit air guides are used throughout press and dryer sections. The three press felts have Bird Machine Vickery felt conditioners.

There are two openside calender stacks equipped with air-operated nip pressure control, each stack containing eight calender rolls. These rolls have flexible blade, air-loaded doctors. There are three high pressure calender dryers between the two stacks.

Beloit made reel and winder, both heavy duty types. The reel can build rolls up to 84-inch diameter, has air-operated starting arms. Pressure between winding paper roll and reel drum is maintained at desired intensity by means of air cylinders. Resultant jumbo rolls from the reel

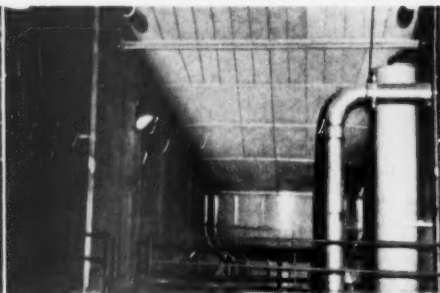
are moved by Ederer fixed hoist reel crane to the double drum winder, which has motor-driven shear type slitters, for conversion to rolls of sizes desired. A motor driven, air controlled rider roll assembly of the winder provides adjustable contact pressure to meet operating requirements. The winder, preceded by unwinding stand with water cooled diaphragm operated air brake, has roll ejector, shaft puller, and roll lowering table. The latter is equipped with 12-in. Langdon type collapsible shafts furnished by Ray Smythe Co., and other sizes of shafts.

From this unit, rolls go to a roll header-wrapper and are taken to a Link-Belt roll Lowerator for transport down to floor level of the combination warehouse-finishing room and there automatically discharged from Lowerator. The cage then immediately returns to machine room level for the next load.

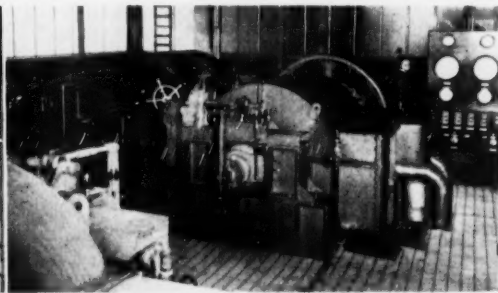
Broke handling equipment consists of



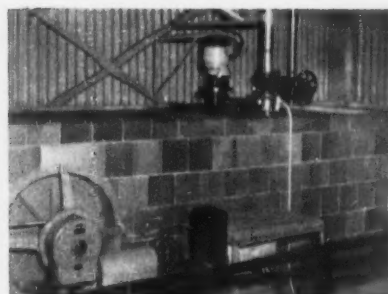
LEFT—OLIVER-UNITED SAVEALL, 8x16, in the new Weyerhaeuser paperboard mill at Longview, Washington.



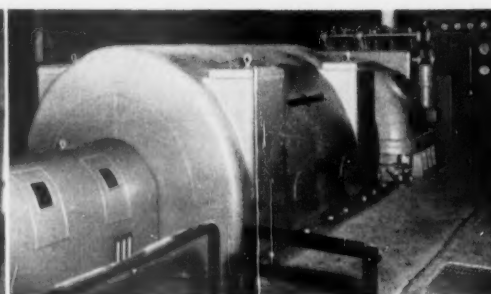
MIDDLE—STAINLESS SHARTLE-DILTS HYDRA-PULPER hood and piping fabricated by NORTHWEST COPPER WORKS. Photo taken at Kraft paperboard mill.



RIGHT—NOBLE & WOOD 2-roll Victory Beater, with FOXBORO instrument control panel, in stock preparation room of Longview additions.



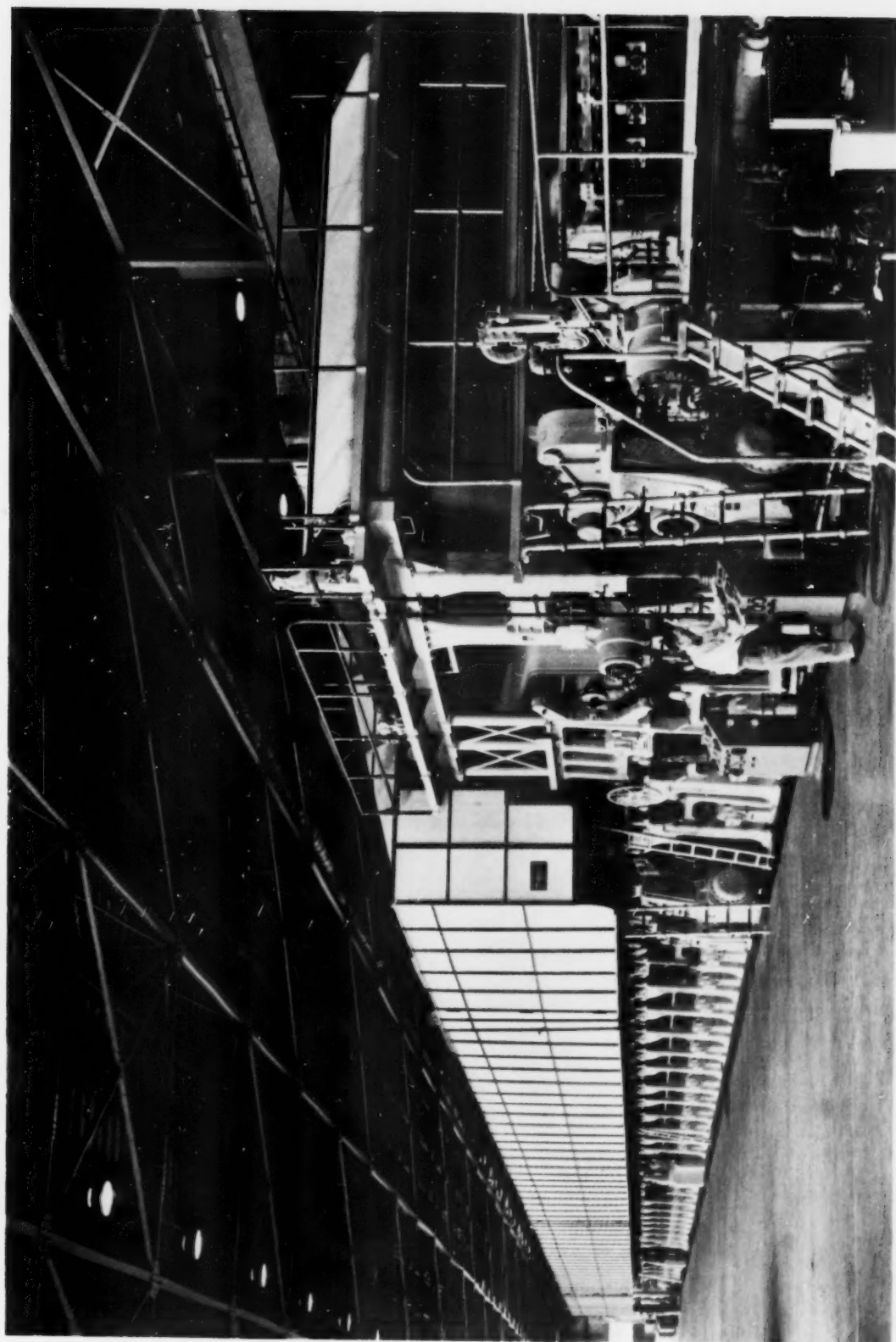
LEFT—IMPCO STOCK METER with DEZURIK consistency control regulator and STEBBINS Semfile vat at Longview additions.



MIDDLE—GENERAL ELECTRIC 14-stage 12,500 KW 13,800 Volt turbine generator installed to supplement generating capacity for pulp operations at Weyerhaeuser.



RIGHT—COCHRANE Reactor furnished by C. C. MOORE & CO., 10 million gallon per day capacity for new Weyerhaeuser expansion.

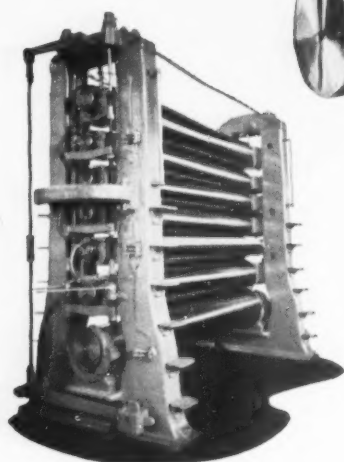


NEW WEYERHAEUSER MACHINE, designed for the manufacture of bleached kraft papers over a wide weight range, was a major element in the recent expansion program at the company's Longview, Washington mill. The machine incorporates all latest features to assure versatility at high production rates. It was engineered and built by Beloit Iron Works, Beloit, Wisconsin.



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MACHINE CALENDER STACKS

Lobdell high speed Machine Calender Stacks combine heavy rugged construction with very easy operation. Long service life and constant accuracy are inherent in Lobdell Stacks. Bearings may be plain or water-cooled, babbitted or bronze lined—or anti-friction. Rolls are Chilled Iron for ordinary machine Calendering or Alloy Chilled Iron for water finish, or on high pressure stacks. Pressure is applied to journals of top roll through an effective system of weights and levers . . . lifting arrangement is controlled from the floor by ratchets, electric motors or hydraulic cylinders.

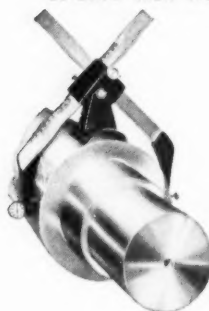
The accurate, durable construction of Lobdell Stacks assures greater production and more uniform finish at lower cost.

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Lobdell Plain Chilled Iron Rolls have a uniformly hard surface highly resistant to abrasion and deformation under load. They give longer service for machine calendering. Alloy Chilled Iron Rolls for water finish or high pressure stacks are harder and more resistant to corrosion and abrasion than ordinary rolls.



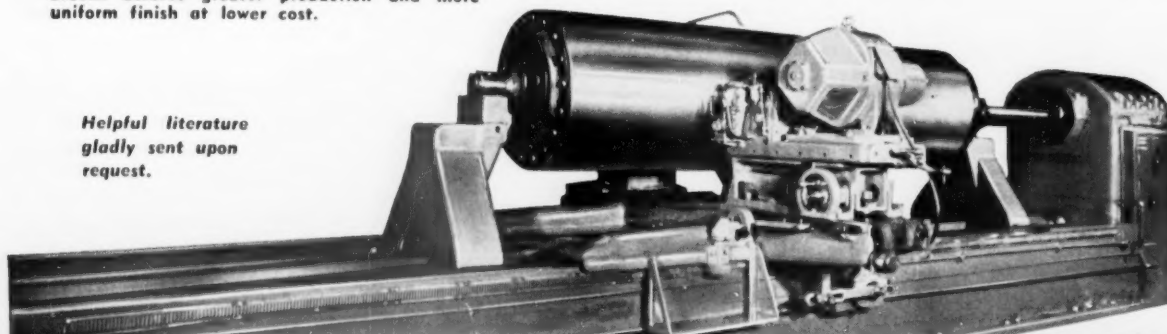
MICROMETER ROLL CALIPERS

Light weight permits easy handling by one man, and they are readily adjusted to a wide range of roll diameters. Micrometer dial is graduated in thousandths.

ROLL GRINDERS

Rugged, extremely accurate, with ease and flexibility of operation . . . these huge LOBDELL Type CW Roll Grinders are a proper supplement to the giant paper machines of today. Designed for Direct Current operation, but for connection to an A.C. power supply, the LOBDELL Type CW has a heavier, more massive wheel carriage and grinding wheel head construction . . . and the rigidity and capacity necessary to handle rolls up to 48" or 60" diameter, weighing 40 tons or more.

Other LOBDELL Grinders, Type GHV for A.C. operation are made in three smaller sizes to suit the requirements of any mill.



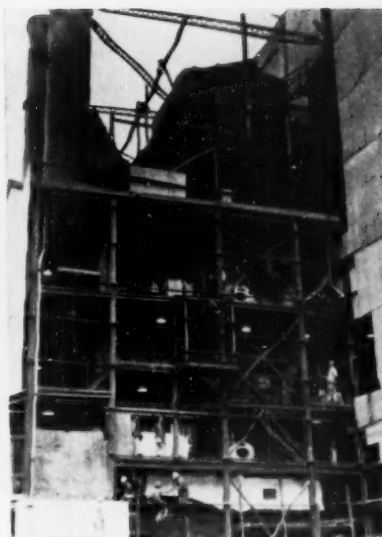
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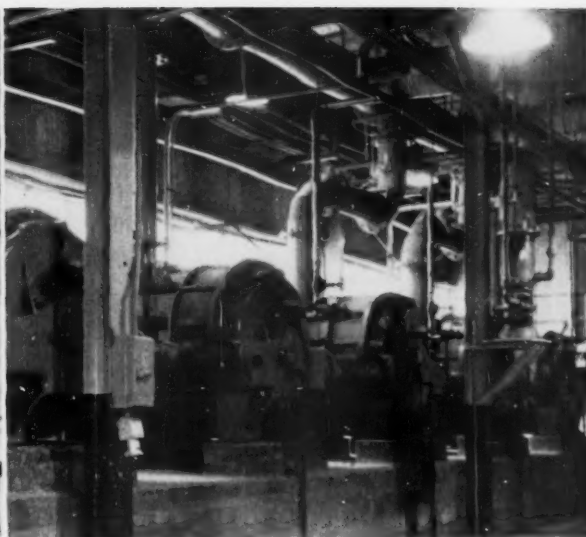


LEFT—TWO COMBUSTION ENGINEERING POWER BOILERS each generating 150,000 lbs. of 650 psi. 700° FTT steam per hour at expansion of Weyerhaeuser kraft mill.

one 14-foot continuous Shartle-Dilts Hydrapulper. A 4 to 1 ratio hypoid drive, V-belt connected to 200 h.p. motor, turns the 78-in. diameter chrome steel impeller at 175 r.p.m. The Hydrapulper is directly below the last dryer and calender broke holes. Intervening space between broke holes and the top of the Hydrapulper tub is entirely encompassed by a stainless steel hopper fabricated by Northwest Copper Works. The Hydrapulper can take the full width sheet directly from the machine and can handle total production of the machine for considerable periods of time.

Winder trims, air conveyed through pipe, go directly to Hydrapulper tub. Stock from the Hydrapulper is jropor-tioned, as desired, back into machine supply system.

Desiring a mechanical rather than sectional drive, the company selected the Beloit differential drive system introduced for the first time for entire machine only recently. This enclosed me-

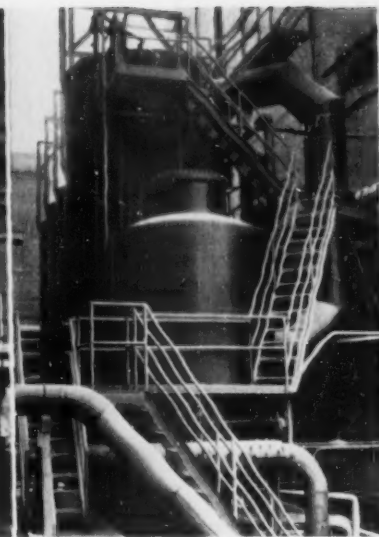


MIDDLE—NASH HYTOR VACUUM PUMPS providing suction for couch and presses of Weyerhaeuser paperboard machine at Longview.

chanical drive has a low line shaft, just a little above machine room floor, driven by a 1,500 h.p. General Electric turbogear with 6,000 r.p.m. on turbine, 833 r.p.m. on output shaft. The turbine takes throttle steam at 600 p.s.i. and exhausts at 40 p.s.i. directly into header supplying the dryers which are designed for prospective operating pressure of 125 p.s.i.

This drive, using Link-Belt PIVs, has separate gear units at each section of the machine. Speed at each indrive is determined by setting on control stations at operating side of machine.

Confining the line shaft to operating floor leaves the back side of basement available for housing auxiliary equipment—lubrication system, Midwest-Fulton drainage, Ingersoll-Rand compressor, size, alum and starch storage tanks, Hercules automatic emulsifier, Proportioners alum feeding-blending Treet-O-Units, etc. Thus the basement front side remains relatively open for storage of materials and other uses.

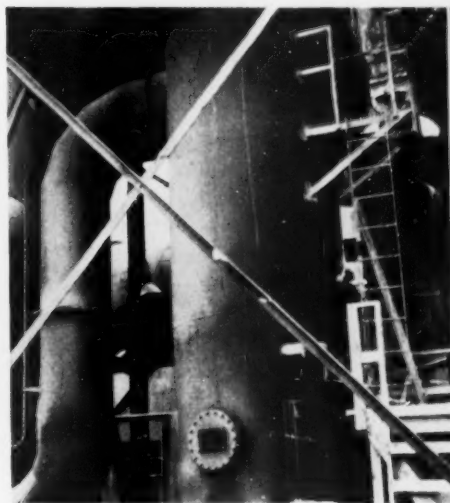


RIGHT—GENERAL AMERICAN TRANSPORTATION CORP. sextuple effect evaporator installed in Weyerhaeuser expansion.

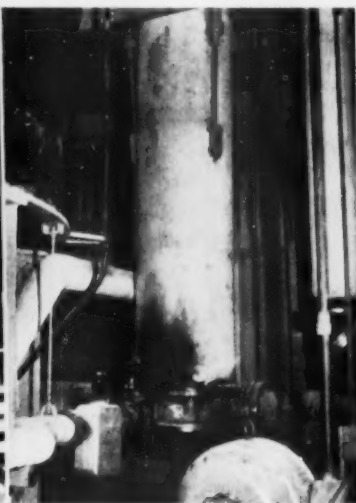
Five Nash Hytor vacuum pumps, powered by General Electric 200 h.p. synchronous motors, provide suction for the machine couch and presses. Another Nash Hytor, powered by 100 h.p. General Electric motor, furnished suction for suction boxes.

Nine Air Systems in Room

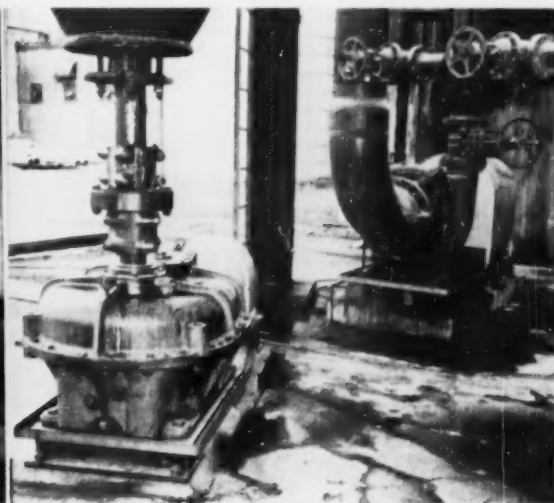
Nine air systems were built and installed in the machine room by Drew Engineering Co. Equipment for five systems, supplying drying and ventilating air, and seven exhaust units from the hood are located on the mezzanine above the machine. Three systems supply air to room and to stock preparation department. These are thermostatically controlled to automatically maintain temperature on the machine room floor. The bulk of the air from two of these units can be directed in the summer time from the usual application on the roof to working areas near the floor for cooling purposes. A



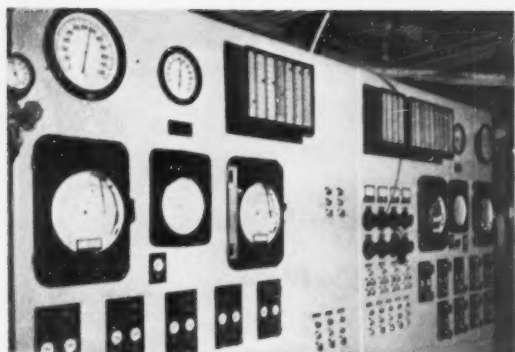
LEFT—PEABODY ENGINEERING gas scrubber supplied by BABCOCK & WILCOX CO. and C. C. MOORE & CO. in the expansion of the new Weyerhaeuser paperboard mill at Longview.



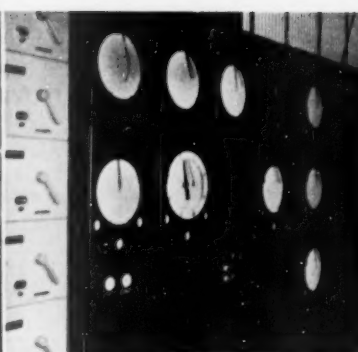
MIDDLE—ESCO HEAT EXCHANGER (2-pass) for LUKENS stainless clad digester. BINGHAM pumps powered by 50 hp motors circulate cooking liquor in Longview additions.



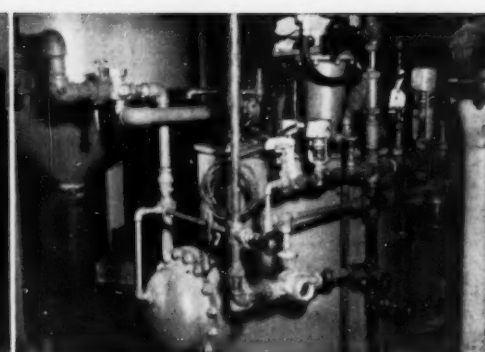
RIGHT—HYDRAULIC SUPPLY Mfg. Co. Agitator with WARREN stock pump at bottom of Hydraulic Supply Mfg. Co. blowtank. FABRI-VALVE valves shown here are used many places in the new mill of Weyerhaeuser.



LEFT—HAGEN AUTOMATIC COMBUSTION controls for combustion engineering power boilers in Kraft Paperboard Mill of Weyerhaeuser.



MIDDLE—MINNEAPOLIS-HONEYWELL PANEL of kraft stock preparation room with control instruments in new Weyerhaeuser paperboard mill, Longview.



RIGHT—HERCULES AUTOMATIC SIZE EMULSIFIER in machine room basement in Longview paperboard mill.

fourth unit on the mezzanine supplies air to the drive alley side of the machine floor. This unit is also thermostatically controlled to automatically maintain minimum temperature for winter or cooling air during summer.

The machine hood, built of asbestos board and steel, has removable top panels over the entire length of the machine frame to give access to gears and dryer journals with the Ederer crane. Removable top panels and hinged doors also permit removal of press rolls. Seven exhaust units, located on mezzanine and driven by Louis Allis Ajusto-Spede motors, draw vapors from the hood and discharge them vertically through roof to the atmosphere. The Louis Allis motors permit varying exhaust volumes for each unit as required.

The Drew Hi-Jet system creates a positive circulation through vapor pockets of the machine. The nozzles are rigidly bolted to machine frame. Precision blast gates permit full control. The apparatus has also been located on mezzanine.

Six auxiliary exhaust fans are located at the wet end wall of the machine room, permitting a wide range of room air to be exhausted around the Fourdrinier.

The room housing transformers and switchgear is supplied with filtered fresh air in such volumes that ambient temperatures will always be kept at safe level. Two units supply air to the machine room basement.

The calender cooling system include headers located in the Hydrapulper hopper with the individual blows extending through the floor at each calender stack. Precision blast gates provide completed volume control for each blow.

The trim conveying system, located beneath machine room floor under the winder, receives trim ribbons at splitter frame and conveys them to Hydrapulper hopper through an ejector developed by Drew with an adjustable orifice in the primary air stream which gives a wide range of adjustment for conveying the trim ribbons.

A G.H.V. Lobdell-United 42 inch roll grinder mounted on a 30 ft. bed has been installed in the paperboard machine room for processing rolls of both the Everett and Longview mills.

Due to mucky earth conditions in that

area and in order to dampen vibrations it was necessary to mount this machine on 70 to 80 ft. pilings. On top of the pilings an independent sub-base was poured of concrete. Upon this base, Korfund spring isolators are mounted. Then there is a 231,000 pound concrete inertia block mounted on the springs. The grinder is sitting on the inertia block.

Equipment in the new combination 200 by 225-ft. finishing room and warehouse, adjacent to and at same level as machine room basement; includes a Clark-Aiken Simplex sheet cutter with 5-ton Ederer crane. A covered trackway at the shipping end of this section accommodates four rail cars at a time. Gasoline-powered fork trucks handle paperboard rolls.

Power and Recovery Additions

The plant expansion includes enlargement in power facilities, both steam and electric, the additions bringing Longview Pulp Division's installed steam capacity to 700,000 pounds per hour and electric generating capacity to 24,500 kw.

A 300-ton Babcock & Wilcox-Tomlinson chemical and heat recovery unit was furnished and installed by C. C. Moore & Co. Engineers beside a similar 225-ton B&W unit, also installed by C. C. Moore & Co., that has been in operation since 1948. This new boiler will handle 900,000 lbs. of solids in black liquor from kraft digesters every 24 hours. In so doing, it generates 146,000 lbs. of 650 p.s.i. 700° F. T. T. steam per hour.

The B&W boiler is a two drum Stirling; first pass and first row of second pass tubes are 3¼ in. O.D.; Second pass tubes are 2½ in. O.D. The boiler screen section in front of the B&W Superheater is made up of four rows of widely spaced 3¼ in. O.D. tubes. The unit is equipped with D. J. Murray cascade evaporator and Western Precipitation electrostatic precipitator, Clarage draft fans, and Diamond fully automatic IK retractable soot blowers for keeping gas passages clear.

Two Combustion Engineering power boilers, each of which will generate 150,000 lbs. of 650 p.s.i. 700° F. T. T. steam per hour, were installed to supplement steam delivered by the recovery boilers and thus provide adequate supply of process steam throughout the mill. These boilers, with burner set to fire tangentially, were designed for automatic oil firing or

C-E spreader stoker firing of hog fuel.

The power boilers have Clarage fans, Hagan combustion controls, airheater, centrifugal type Western Precipitation cinder collector which returns collected cinders to combustion zone, soot blowers, both retractable and fixed position and Atwood Morrill Co. relief valves furnished by Ray Smythe Co.

Hagan automatic controls and meters include complete automatic combustion controls and boiler water drum level control. The system is designed for automatic firing on one boiler of either hog fuel or oil, as desired; the transition being made by turning one knob on the panel. The second boiler controlled by the automatic system is oil fired only.

To maintain an accurate boiler water level in the drum, a pneumatic two-element type of control system is used wherein the water level, as measured, is automatically modified by the steam flow. The Hagan system also automatically controls the feed of fuel, forced draft air and induced draft fan by means of steam flow-air flow relationship, the feed of fuel being controlled by steam demand and the flow air being modified by steam flow.

A boiler water treating system, consisting of Cochrane hot process plus hot Zeolite feedwater treating plant, furnished by C. C. Moore & Co. is a two stage process. First is hot lime-soda treatment, for hardness reduction, and magnesium oxide for silica reduction. Then, for second state, the water passes through four 8-ft. hot Zeolites where effluent approaches zero hardness.

All mill condensate returns to a common header in water treatment room and is dispatched to Cochrane condensate deaerator and storage tank. The boilers are supplied feedwater by five Bingham pumps, 800 g.p.m. each, two driven by General Electric 500 h.p. turbines and three 500 h.p. Westinghouse motors.

A new sextuple effect General American Transportation Corp. long-tube rising film evaporator, equipped with surface condenser, concentrates black liquor from kraft washers, the resultant product further and finally concentrated in a Murray cascade evaporator as preparation for firing in the recovery unit.

(Continued on page 75)

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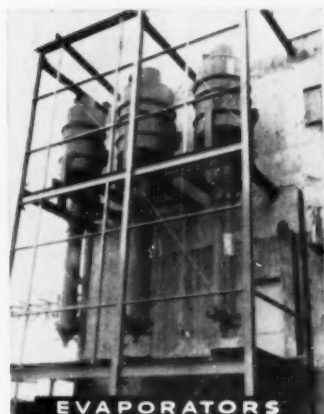
THRU THEIR REFORESTATION AND UTILIZATION PROGRAMS, THEY ARE
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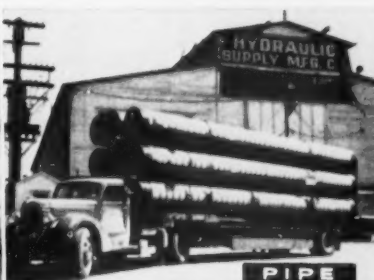
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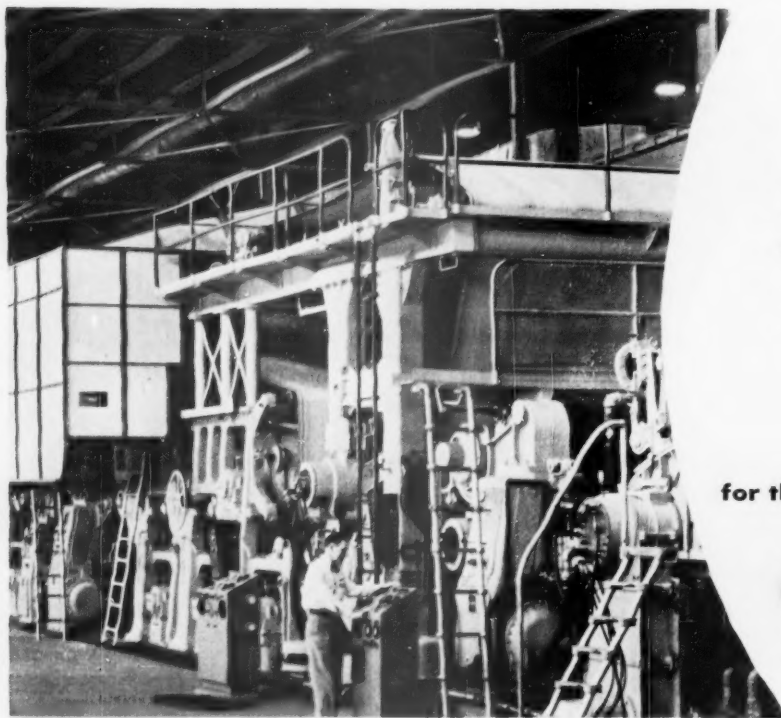
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SUPPLIERS OF: Babcock & Wilcox Heat & Chemical Recovery Units

Diamond Soot Blowers & Water Columns

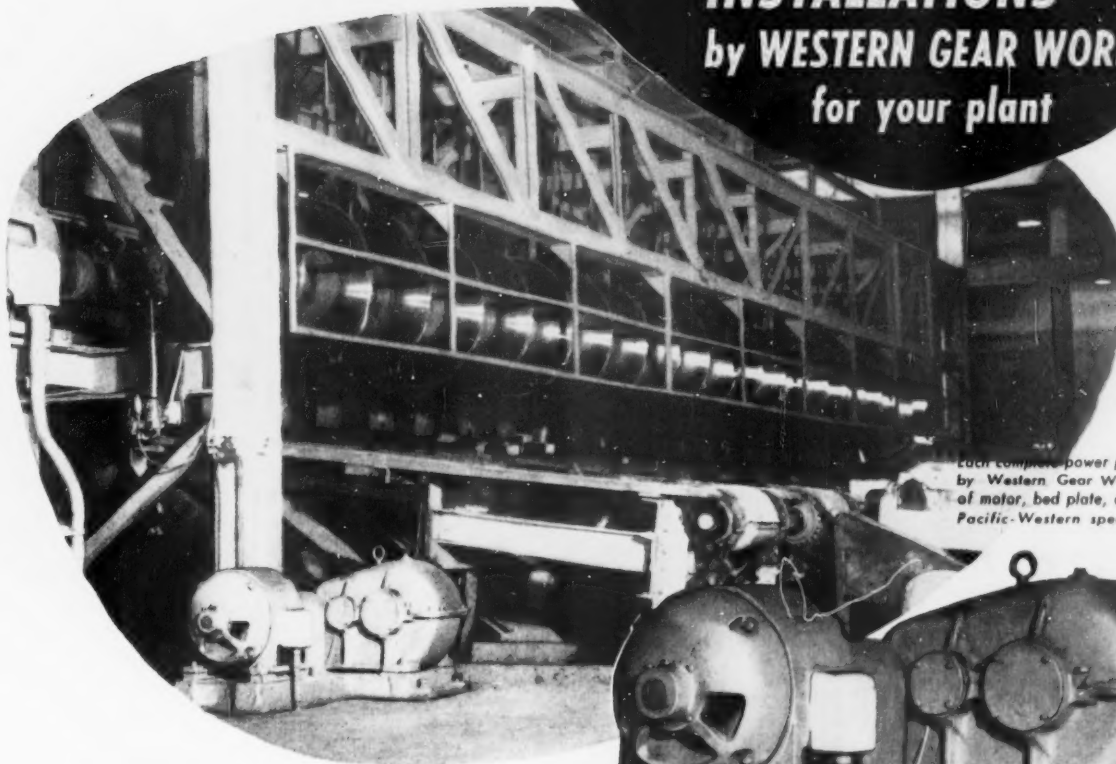
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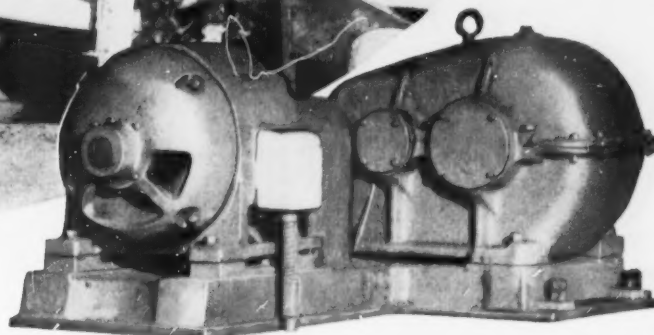
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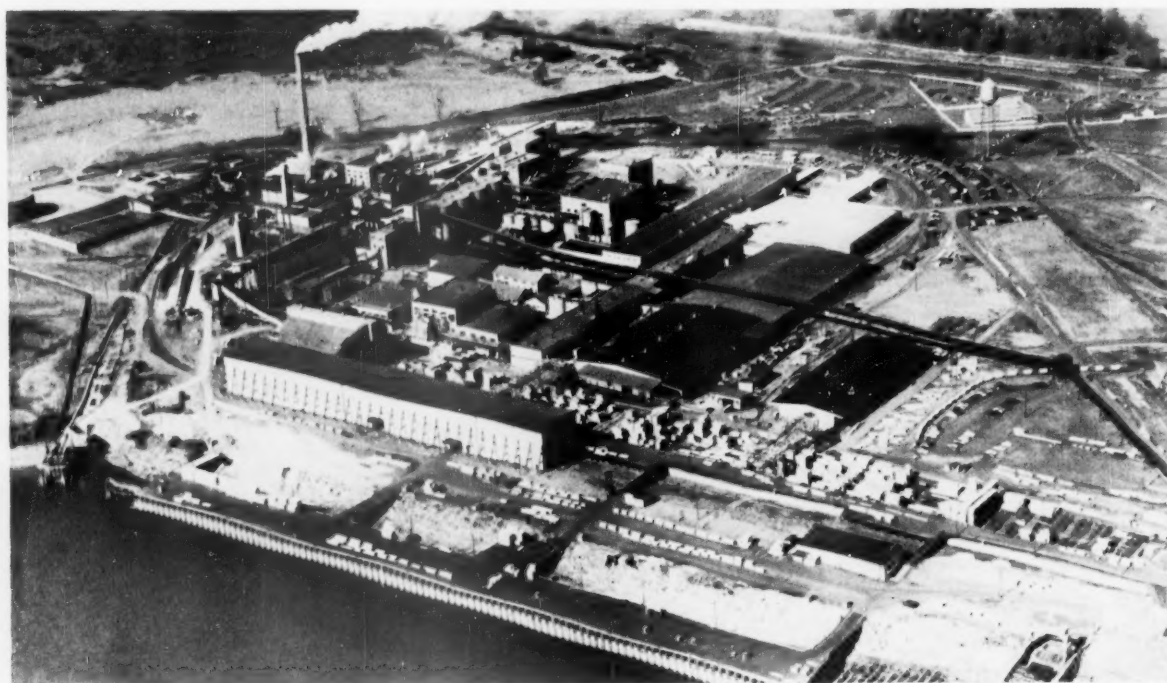
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WEYERHAEUSER TIMBER CO., LONGVIEW, WASHINGTON . . .

Also . . . THEIR EVERETT, WASHINGTON PLANT . . . under construction . . . As well as a plant expansion for Weyerhaeuser's Springfield, Oregon plant.

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Also, for Publisher's Paper Co., Oregon City, Oregon . . . as well as many other large Industrial plants . . .



Aerial view by Valley Flying Service

NEW PULP PLANT AT LONGVIEW, WASH., OF WEYERHAEUSER TIMBER CO.

Weyerhaeuser Mill

(Continued from page 70)

12,500 Kw. General Electric Turbine

Recent addition of a 12,500 kw. General Electric turbine generator slightly more than doubled previous electrical output, now generated by three General Electric generators at 13,800 volts and transmitted to unit substations located near load centers and there stepped down to useable voltage levels. The turbines take throttle steam at 600 p.s.i.g. 700° F. T. T. and automatically extract at 125 lbs. or 40 lbs. for mill process use. One of the turbines, the new 12,500 kw. General Electric, is served by Ingersoll-Rand surface thoroughfare condenser which has vertically divided water boxes so half of the condenser can be cut out for cleaning while the other half remains in service. This turbine automatically extracts steam at 40 p.s.i.g. and exhausts at 29-in. vacuum to the condenser. The main generating room switchgear is by General Electric.

Throughout the new plant expansion upwards of 500 electric motors have been installed ranging from 1 to 500 h.p. The types vary from standard squirrel cage induction motors at low voltages of 550-volt 3 phase 60 cycle to high voltage 2300-volt motors.

Westinghouse provided 2300 volt control centers, of which there are 19 in the plant, with dead front metal clad type of controllers. Also dry type 1000 kva. indoor power centers which selectively feed these control centers through air type circuit breakers. Voltage of power centers is 13,800 to 2300 volts and 13,800 to 550 volts. This high voltage distribution eliminates heavy line losses and oversize cable which would be needed for low voltage circuits with high horsepower loads.

A 3000 kva. oil filled air cooled 13,800 to 2300 volt power center was also installed. This is throat connected to an outdoor switchgear section composed of load break 2-pole switch on high voltage side. Low voltage side has seven outdoor metal clad switchgear sections composed of removable type de-ion circuit breakers of 1200 ampere rating.

The 13,800 volt circuit feeds through aerial cable messenger held along building walls, overhead pipe trestles, etc., make the system versatile and readily installed and maintained.

Liquor Make-Up

Not only were additional liquor making components added, but the existing system altered, thus integrating the whole kraft liquor making section at Longview. Major additions include another lime kiln, 8 by 236-ft., a 28 by 20-ft. 4-tray Dorco lime mud washer, No. 10 Dorco slaker, Dorco 12 by 12 lime mud agitator, and two No. 10 causticizers.

Hydraulic Supply Mfg. Co. of Seattle

HERE IS ONE OF FIRST OF NEW GRAPHIC PANELS in this industry—this one controls and records Brown's Stock Washing process in the new Weyerhaeuser additions at Longview. Weyerhaeuser's Instrument Engineer Herb Peterson and Weyerhaeuser staff working with Taylor Instrument Co. developed the 80 by 90 in. panel with instruments contained in a process flow diagram and pumps and indicated by symbols, all on the board.

built a salt cake tank designed to withstand "earthquake load." Chicago Bridge built other tanks in this section.

With the addition of the Dorco slaker classifier and two new causticizers, two complete lime slaking units resulted. These can be used either separately or jointly. Since installing a new 30 by 30-ft. 158,600-gallon raw green liquor storage tank, the original 70,000-gallon raw green liquor storage tank has been used as additional storage for clarified green liquor. After installing the new 87,700-gallon Dorco lime mud washer, the original one of 70,000-gallon capacity was converted to an additional white liquor clarifier.

Raw green liquor from the recovery boiler dissolving tanks is pumped to this new storage tank and from there pumped to the Dorco green liquor clarifier. From here the clarified liquor flows by gravity to two 20 by 20-ft. clear green liquor tanks.

A Minneapolis Honeywell instrument panel controls raw and clear green liquor levels and flow and temperature.

Green liquor dregs are pumped from the clarified to 29 by 16-ft. Dorco dreg washer by Dorco diaphragm pumps and the weak wash, drawn off by gravity, goes to storage pending use at dissolving tanks.

Clarified green liquor is pumped at controlled rate to either or both the No. 7 or new No. 10 Dorco slaker classifiers, lime added, and subsequently causticized in five causticizers. From these the liquor flows by gravity to two white liquor clarifiers, the resultant clarified liquor ready for the cooking process goes to two large storage tanks.

Settled out CaCO mud is pumped out of the two white liquor clarifiers by Dorco diaphragm pumps to the new mud washer. Here both the weak wash and mud discharge to respective storage tanks. From storage the mud goes to the new Bird continuous centrifuge enroute to the new kiln, or to the Oliver mud filter feeding the original kiln.

Both kilns discharge lime into Link-Belt drag chain conveyor and elevator leading to 40-ton storage tank supplying both slaking units. Additional conveying equipment permits diversion of hot lime to a 250-ton make-up lime storage tank,

thereby resulting in appreciable lime make-up savings.

A Link-Belt bucket elevator supplies the new kiln with pebble lime rock. This 8-ft. diameter kiln is equipped with Peabody dust collecting system supplied by Babcock Wilcox and C. C. Moore.

Water Filtering Plant

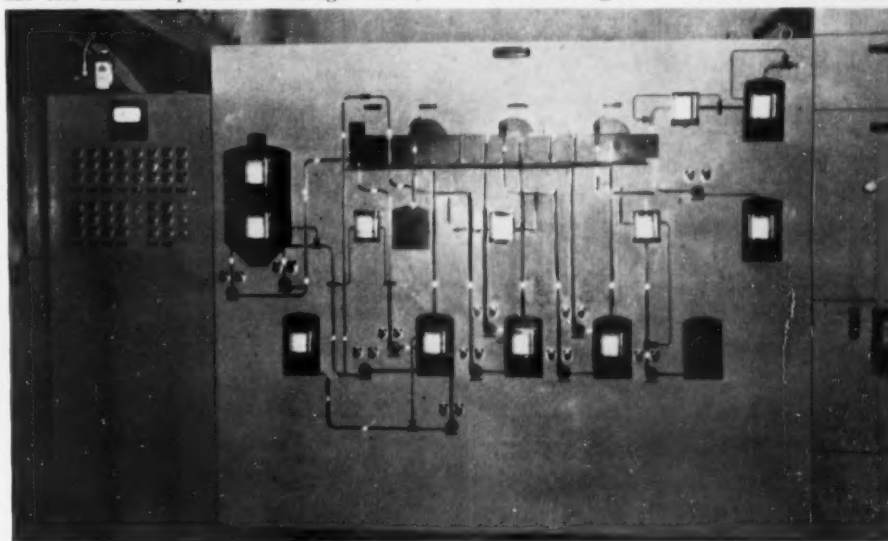
Prior to recent expansion for the second kraft mill, the Pulp Division water filtering plant at Longview operated at 40 million gallon per day capacity. To this has been added 10 million g.p.d. filtering capacity and 20 million g.p.d. settling capacity.

Columbia River water, which is pumped to filtering plant, has color of under 20 p.p.m. most of the year, but during first three months of the year climbs as high as 160 p.p.m., at which time alkalinity is low. During rest of the year alkalinity climbs and the color decreases. This water condition is a particularly difficult one to treat because of the low water temperature which inhibits coagulation and formation of good alum floc. Raw water turbidity, also at its highest point during winter periods, reaches highs of between 15 to 60 p.p.m., varying between 5 and 10 p.p.m. during remainder of the year.

In increasing the supply of treated water, an 8,700 g.p.m. Bingham pump was added to the battery of five already pumping from the river, and the following Cochrane equipment supplied by C. C. Moore & Co.: Two circular type 82-ft. diameter 10 million gallon per day sludge contact reactors, four 32-ft. by 32-ft. gravity filters with combined capacity of 10 million gallons per day, and auxiliary chemical feeding equipment.

These facilities remove the turbidity, producing crystal-clear colorless water required for manufacturing container pulp products particularly suited for food containers. For this purpose color of water must be reduced to 0 to 5 p.p.m. by the A.P.H.A. platinum cobalt standard and turbidity reduced to less than one part per million.

A system was developed and installed by Weyerhaeuser personnel—chiefly Instrument Engineer Peterson and Construction Engineer Alcorn—for automati-



cally backwashing the new filters and desludging the new reactors. This system uses a Taylor control panel of five Flexotimers for backwash control of filterbeds and desludging control of reactors, and four pneumatic transmission type aneroid differential meters for recording loss of head. By pressing a button the operator initiates the backwash cycle when the loss of head on a bed indicates that backwashing is required. The timer operates valves removing the bed from service, drains, starts backwash pump, backwashes left and right halves of bed consecutively and replaces bed in service without further operator attention beyond pressing the button. In the automatic desludging cycle, an integrating meter proportions the amount of chemical added and sends impulse to a reset counter that initiates desludging timer when a predetermined amount of water and proportionate amount of chemical enter the reactor.

SWECO Screens Used For Hydraulic Barker Water

Hydraulic log barking has brought with it some water problems. Suspended particles in water could damage pumps and other component parts of some barker installations if not removed. And, again, after barking, is used, the fines tend to pile up in log ponds or in rivers or streams.

As a result of trials made two years ago in Longview, Washington, the Weyerhaeuser Timber Co., a large number of 48 inch centrifugal SWECO Separators now have been installed in several Weyerhaeuser sawmill and pulpmill operations in connection with hydraulic barkers.

There are now four SWECOs with 105 mesh screens at Springfield, Ore., where the reported result is that only 2 to 2½ lbs. per 1,000 gals. of suspended solids remain in the effluent discharged into the log pond. The Longview, Wash., and Snoqualmie Falls, Wash., Weyerhaeuser operations then adopted SWECO Separators for fine screening barker effluent. At the Coos Bay, Ore., operations, where a Weyerhaeuser mill went into operation in Oct. 1951, the Separator is used to fine screen sea water used by the barker. Also at Klamath Falls, Ore., three SWECO units fine screen water ahead of the barker.

Southwestern Engineering Co. of Los Angeles manufacture the units. James Sturkey, SWECO district engineer in Seattle, and D. G. O'Shea, project engineer for Weyerhaeuser in Tacoma, Wash., headquarters, cooperated in original trials.



WEYERHAEUSER KEY MEN in Weyerhaeuser organization (top row—l. to r.) **E. N. WENNBERG**, Superintendent of Paperboard Manufacture; **A. H. WICKETT**, Kraft Pulp Mill Superintendent; **T. W. STEWART**, Superintendent of Power and Recovery for all Longview Pulp Div.; **SVARRE HAZELQUIST**, Tech. Director, Pulp Division, Longview; **V. L. MAURMAN**, Chip Preparation Superintendent for all operations. (bottom row—l. to r.) **DONALD G. FELTHOUS**, Plant Engineer; **PAUL F. MIESCKE**, Office Manager; **HERBERT T. PETERSON**, Instrument Engineer; **LESLIE L. ANDERSON**, Master Mechanic and **A. E. ERICKSON**, Chief Chemist.

Men Behind New Mill

Behind the story of Weyerhaeuser Timber Co.'s new bleached kraft paperboard mill—as always are the men who made the story possible.

First, of course, the broad plans were laid by J. P. (Phil) Weyerhaeuser, Jr., the president; Charles H. Ingram, vice president and general manager, and Howard W. Morgan, manager of the Pulp Division, all of whom headquarter in Tacoma, Wash. Mr. Morgan is a 1925 graduate of the pulp and paper school at Syracuse University, was on the faculty of the Institute of Paper Chemistry and with Oxford Paper in Maine and Munising Paper Co., before joining Weyerhaeuser prior to its expansion into the kraft fields in recent years.

Raymond E. Baker, who followed Mr. Morgan at Syracuse, was with the Diamond Match Co., Munising Paper and Brown Co., is mill manager in charge of all Pulp Division operations at Longview, and was active in planning from the outset. He graduated from the Institute.

Gerald F. Alcorn, Pulp Division construction engineer, was in charge of engineering, design and construction, and no higher tribute to him and his work could probably be made than the

WEYERHAEUSER TIMBER CO. SUPERINTENDENTS for Kraft operations at Longview, Wash. (l. to r.) **KENNETH CHAPMAN**, transferred from Weyerhaeuser mill at Everett; **DENNY AXON**, formerly with CZ Camas and Pt. Townsend mills; **J. L. MCCLINTOCK, JR.**, promoted from control lab project chemist; **G. W. HOUGH**, also promoted from control lab., all Kraft Pulp Mill Su-

perintendents; **RAYMOND ERICKSON**, formerly at WTC Springfield mill; **ROSS McLENNAN**, from St. Lawrence Paper Co., Dolbeau, Que.; **W. LE ROY SIMMS**, from International Paper Co., Springfield, La.; **TOM QUIGG**, formerly of Columbia River Paper Mills, all four being Paper Mill Tour Superintendents; and **TED CORTNEY**, Machine Tender.

remark of Mr. Morgan—"the plant is Gerry's." Edge N. Wennberg is superintendent of paperboard manufacture at Longview and assisted in an advisory capacity. He was serving as acting manager in Mr. Baker's place while the latter spending the first three months this year in Tacoma headquarters.

Other key men on the project: Tom W. Stewart, superintendent of power and recovery for both sulfite and sulfate operations at Longview; Donald G. Felthous, plant engineer for the Division in Longview; S. E. Hazelquist, technical director; A. E. Erickson, chief chemist; Verne L. Maurman, chip preparation superintendent; Paul F. Miescke, office manager; Herbert T. Peterson, instrument engineer; Leslie L. Anderson, master mechanic; and Carl B. Fahey, chief electrician.

Shift superintendents of the kraft pulp mill include Kenneth Chapman, transferred from Everett; Denny Axon, formerly with Crown Zellerbach at Port Townsend, Wash.; J. L. McClintock Jr. and G. W. Hough, both from Longview's control lab.

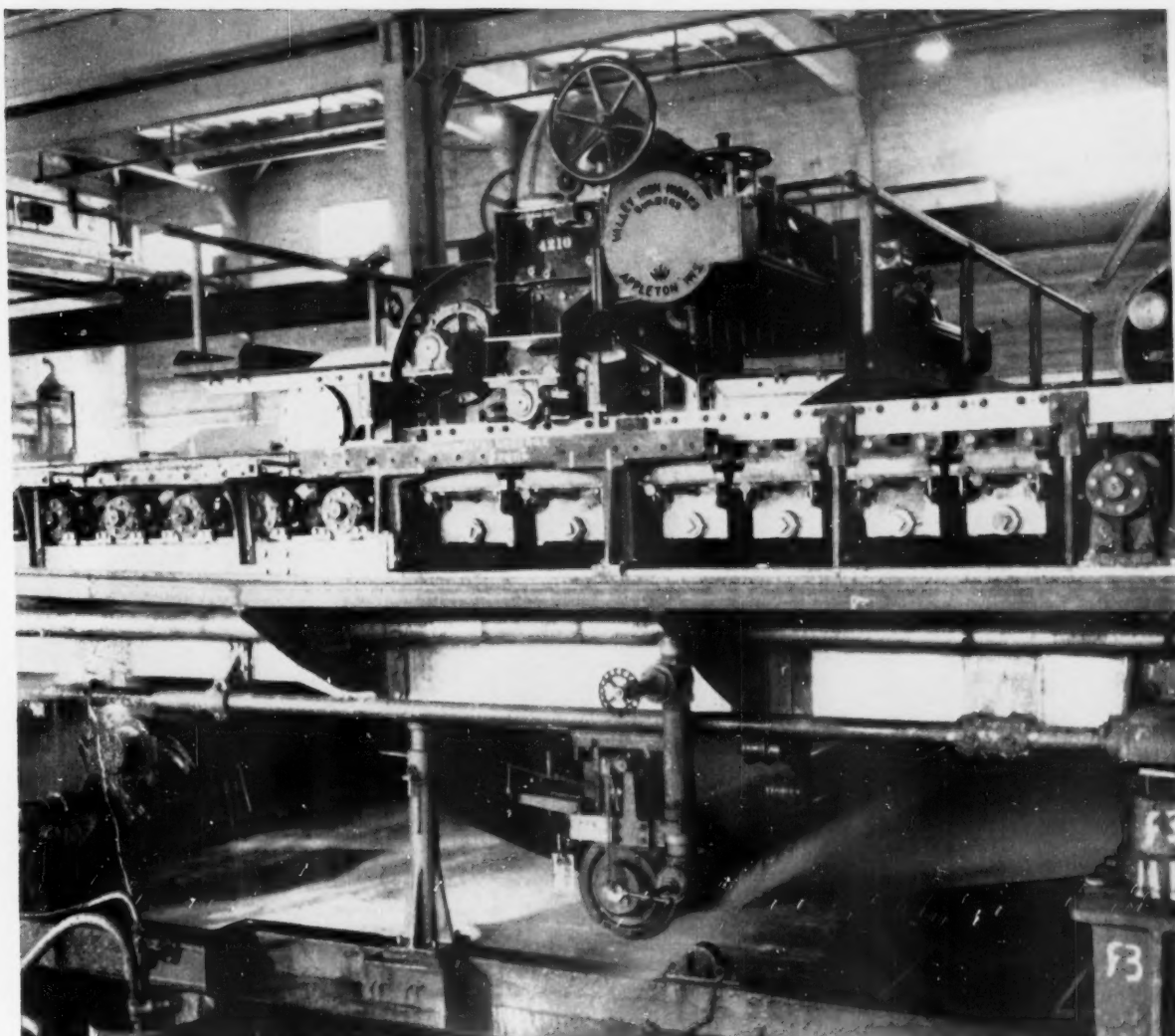
Shift superintendents for the kraft paperboard mill are Raymond Erickson, from the Springfield mill; Ross McLennan, formerly with St. Lawrence Paper Co.; W. LeRoy Simms, from International Paper, Springfield, La., and Tom Quigg, from Columbia River Paper Mills.

perintendents; **RAYMOND ERICKSON**, formerly at WTC Springfield mill; **ROSS McLENNAN**, from St. Lawrence Paper Co., Dolbeau, Que.; **W. LE ROY SIMMS**, from International Paper Co., Springfield, La.; **TOM QUIGG**, formerly of Columbia River Paper Mills, all four being Paper Mill Tour Superintendents; and **TED CORTNEY**, Machine Tender.



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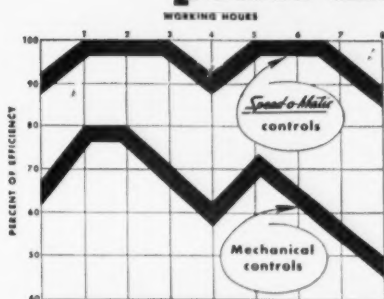
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PRODUCTION • MANAGEMENT

APA'S 18th ANNUAL



Program and plans for the 18th annual meeting of the American Pulpwood Association to be held in New York City during "Paper Week" are basically complete. Having selected topics of primary interest to the pulpwood industry, the APA program committee has been assigning speakers who are top men in each field covered. Heading the program committee is G. W. E. Nicholson, Union Bag & Paper Corp., with members Wm. Bailey, West Virginia Pulp & Paper Co., and L. J. Kugelman, International Paper Co. Also working on program matters have been the association's president E. O. Ehrhart, Armstrong Forest Co., and W. S. Bromley, executive secretary.

Opening session of the 1953 meeting, to be held in the Waldorf Astoria Hotel, Feb. 17, will be devoted to PULPWOOD PREPARATION, with E. C. Melcher, S. D. Warren Co., as chairman. Herbert Davis, Oliver Corp., will speak on "Small Tractor Use in Pulpwood Logging"; Dr. E. C. Jahn, associate dean, New York College of Forestry, on "Status of Chemical Debarking"; W. H. Hildebrand, The Mead Corp., will moderate a panel discussion on "How Can Power Saw Service, Maintenance and Performance be Improved?" Participants will be P. T. Lannan, West Virginia Experiment Forest, D. A. Swan, Great Northern Paper Co., and two representatives of saw manufacturers.

PULPWOOD HANDLING is the subject for the Feb. 17 afternoon session, chairmanned by J. H. Keener, Champion Paper & Fibre Co. T. N. Busch, International Paper Co., will speak on "Recent Rubber-Mounted Pulpwood Loading Devices"; D. W. Sowers Jr., West Virginia

ON PROGRAM FOR APA (l to r): KEN TROWBRIDGE, North Carolina Pulp & Paper, one of session Moderators; TOM N. BUSCH, International Paper Co., who will speak on rubber-mounted wood loading devices, and G. B. AMIDON, Minnesota & Ontario Paper Co., who will discuss his work as their Director of Forest Management.

Pulp & Paper Co., on "Use of Crawler and Stationary Pulpwood Loaders"; Les Pollard, Minnesota & Ontario Paper Co., will moderate a panel on "Single Axle and Double Axle Drive Trucks vs. Semi-Truck Trailer Units." Panel participants are H. H. Flickinger, International Paper Co., John Evans, Evans-Busch Mfg. Co., S. Colacuri, International Harvester Co., and Floyd Crocker, St. Regis Paper Co.

Annual reception and dinner (men only) for association members and guests concludes the Feb. 17 program.

UTILIZING WOODS AND MILL WASTE is the topic for the morning session, Wed., Feb. 18. Phil Reinmuth, Potlatch Forest Industries, Inc., will speak on "Economics of Using Woods Waste"; Richard Warner, Southern Lumber Co., on "Chips from Sawmill Slabs and Edgings"; and K. S. Trowbridge, North Carolina Pulp & Paper Co., will moderate a panel composed of Richard Warner, Southern Lumber Co., H. R. Josephson, U.S. Forest Service, Phil Reinmuth, and C. S. Herr, Brown Co., discussing "Significance of Woods and Mill Waste on Pulpwood Supplies."

Speaker for the Wednesday luncheon has not been announced.

MANAGEMENT OF COMPANY FOREST LANDS is the subject for the final session, Wed. afternoon, with L. J. Freedman, Penobscot Chemical Fibre Co., as chairman. E. A. Sterling, consulting forester, will speak on "Organization of Pulp and Paper Company Forests"; G. B. Amidon, Minnesota & Ontario Paper Co., on "Administration of Large-Scale Silvicultural Projects"; and J. E. McCaffery, International Paper Co., is moderator for the panel on "Correlation of Pulpwood from Company Forests with Mill Requirements." Participants are Tom Barron, Camp Mfg. Co., P. M. Garrison, Gaylord Container Corp., A. C. Shaw, Champion Paper & Fibre Co., J. B. Millar, Kimberly-Clark Corp., and Wm. Hilton, Great Northern Paper Co.

USSR COMPETITION

**Foreseen by Thiesmeyer—
Conference Reports—
Rayonier's Use of Radio**

In logging engineering and forestry North American industry can make or save more dollars through applied research in the next ten years than Soviet Russia has made and saved in the past 25 years through research in laboratories and mills, according to Dr. Lincoln Thiesmeyer, president of Pulp and Paper Research Institute of Canada, Montreal.

Addressing the Western Forestry and Conservation Association in Victoria, B.C., Dec. 11, Dr. Thiesmeyer warned, however, that Russia will become a major competitor in world forest products markets. He said Russians have been borrowing basic ideas about mechanization and forest management from this continent, and extending them in a huge research program of their own. "The Russians have apparently stepped up their logging efficiency to such a degree that the free world must take notice," he declared.

Dr. Thiesmeyer said that the tip-off on Russia's woods progress can be found in a book recently published by his institute based on about a hundred recent Russian articles on woods techniques translated by Alex. Koroleff, of the Canadian Institute staff.

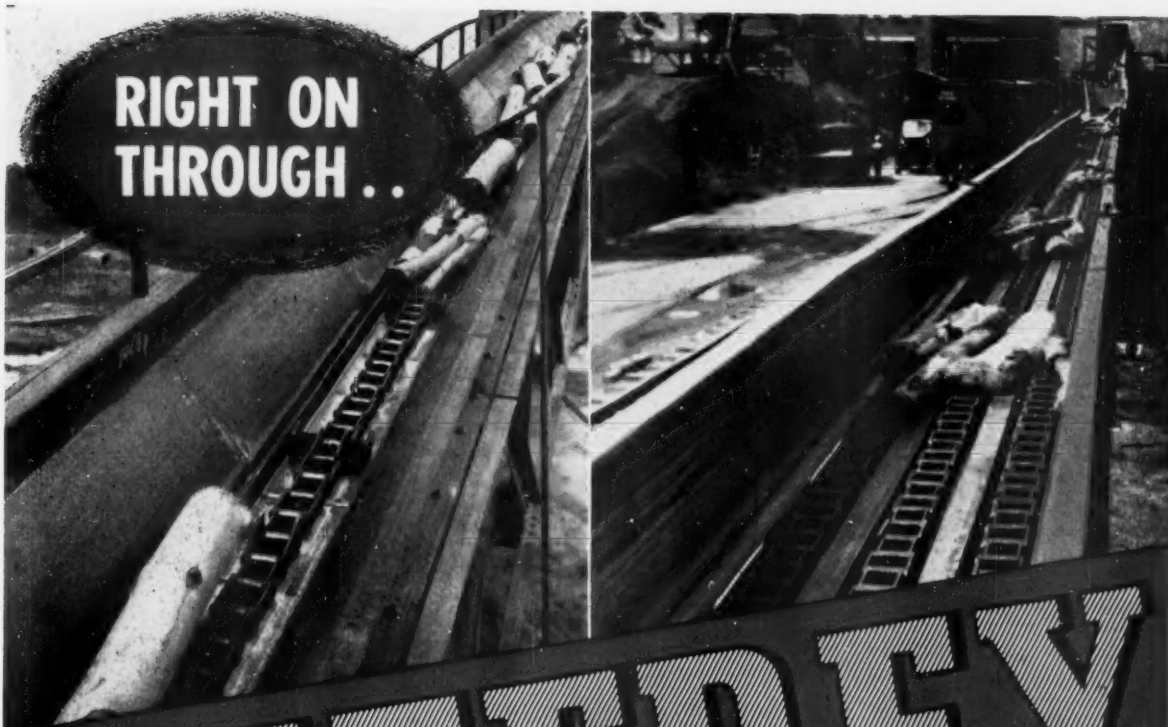
The chemical pulping industry on this continent, said the Montreal authority, is progressing so fast in research and development that a complete revolution of processes is now on the horizon, said Dr. Thiesmeyer. More products from the same volume of wood, derived from more tree species, is the promise.

Forecasting an era of "push-button" mills, Dr. Thiesmeyer declared: We can foresee a complete change in the appearance, capital cost, operating practice, wood requirements and profits of a chemical pulp mill. They will be cheaper to build, will use less chemical, less steam, less power. They will get more products from the same amount of wood and will be able to cook more wood per day in much smaller equipment under better control.

May Change Pulp's Daily

"We even think they will be able to cook one type and grade of pulp one day and a different one the next. The same equipment may be used to switch from

**RIGHT ON
THROUGH..**

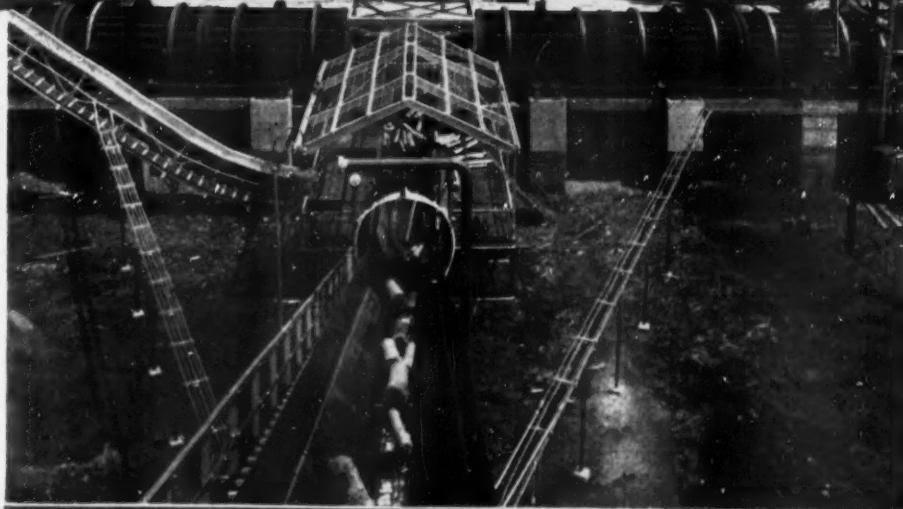


JEFFREY

Beginning with the handling of pulpwood (from yard storage, barges or railroad cars), Jeffrey goes right on through each step of the process—feeding, crushing, conveying, elevating—to the handling of the finished paper rolls.

Chain Conveyors
Belt Conveyors
Spiral Conveyors
Chemical Feeders
Bucket Elevators
Barge Unloaders
Crushers and Shredders
Re-chippers
Log Haul-ups
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Each unit correctly designed and built to help you modernize by mechanizing . . . to bring your mill up to desired efficiency. Take advantage of our years of experience in serving pulp and paper mills.



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Rockley, W. Va.	Salt Lake 2	Cleveland 12	Forty Fort, Pa.	Jacksonville 2	Philadelphia 2	Salt Lake City 2
Wilmington 2	Chicago 1	Denver 2	Boston, Ky.	Milwaukee 2	Pittsburgh 22	
Jeffrey Mfg. Co. Ltd., Montreal, Canada	The Galloway Iron Works & Mfg. Co., Galloway and Bucyrus, Ohio					
Witch Jeffrey-Diamond Ltd., Walsfield, England	Galloway (Great Britain) Ltd., Walsfield, England					
Jeffrey-Galloway Pty. Ltd., Johannesburg, S. A.	The Ohio Malleable Iron Co., Columbus, Ohio					
	Jeffrey Mfg. Co., Columbus, Ohio					

sulfite to sulfate to semi-chemical, from calcium base to ammonia to soda, from pulp linerboard to dissolving pulp for rayon."

Replacement value of the coastal forest industry in British Columbia in plants and equipment only is over one billion dollars, and much of this value is represented in new pulp and paper expansion, Walter C. Koerner, president of Alaska Pine & Cellulose (Abitibi partner), meeting.

"We are now in a wood age, much in the same way as the industrial revolution moved ahead more than a hundred years ago, with the great expansion in the use of metals, particularly iron and steel," he said. "It is customary to think of our time as the atomic age. This is true, but the genius of our chemists and researchers is equally as active in its current search for new and unknown products from that amazing substance—wood.

Rayonier Uses 2-Way Radio

The two-way radio is now as essential a tool in producing forest products as the power saw and the tractor and dozer. Myron B. Savage, photogrammetrist and radio supervisor for Rayonier Inc. told the Conference. He described the radio network which blankets Rayonier's extensive forest holdings as a "time-saver, money-saver, property-saver and life-saver."

Rayonier has divided its Northwest operations into two major geographical areas, each with its own radio network. Each area maintains approximately 40 mobile units and 4 transmitting bases.

Since the Federal Communication Commission's law demands that "the highest order of frequency shall be employed," Rayonier conducted its first propagation surveys on 150 megacycles. The area is rough and mountainous, and 150 MC gave only about 20% coverage, mostly with poor intelligibility. Directional antenna were impractical because the operation could not be confined to any pattern. The Andrews Unipole antenna proved most efficient and was used in all surveys.

E. F. T. Wohlenberg, vice president of Masonite Corp., Ukiah, Calif., was elected as president of the association.

New Hardboard Plant Starts at Anacortes, Wash.

A new \$1,000,000 pulp hardboard plant of Anacortes Veneer Inc., Anacortes, Wash., a cooperative owned by its 270 workers, has started up after three years' research. Armorboard, made in $\frac{1}{8}$, $\frac{3}{16}$ and $\frac{1}{2}$ in. thicknesses, is being produced. The firm headed by H. W. McClary, general manager, also makes plywood.

Stevenson & Rubens, of Seattle, were structural engineers. Plywood core chips are made with a Sumner 4-knife 112 in. chipper and veneer scrap chips by a Sumner 66 in. 6 knife chipper. After screening they are screw-fed to a Gresco Inc. (Seattle and Portland, Ore.) continuous cooker which has rotary valves at inlet and outlet, agitators and conveying paddles in the horizontal cooking tube. Steam pressures of 20 to 50 psi and cooks of 5 to 20 min. semi-soften 50 tons a day. Two Bauer No. 400 refiners follow then a Gresco blender for resins and additives, then a Link-Belt felting machine and Link-Belt pre-compressor. Subsequent steps are a hardboard press, Ross humidifier, edger, trimmer, and steel-strapping bundles of 100 each.

HEADS APA IN LAKE STATES



BRUCE G. BUELL, Forester for Northern Paper Mills, Green Bay, Wis., and Manager of Northern's 100,000 acre Tree Farm near Amasa, Mich., was recently elected 1953 Chairman of the Lake States Technical Committee of the AMERICAN PULPWOOD ASSOCIATION. In this PULP & PAPER photo, he was inspecting a "Poppel" (poplar) root on the Tree Farm. Through technical developments in the mills, poplar is now a desirable pulpwood species in the Lake States.

Forest Information Sets High Mark for South

Comprehensiveness of studies in the forest field culminating in a record for publications during the past year by the Southern Forest Experiment Station, New Orleans, an annual report covering this work bears the signature of Harold L. Mitchell, who became director when Chas. A. Connaughton became Southern regional forester.

Included in the station program was the need during the year to conduct analyses of timber supply in connection with 25 applications of pulp mill and two veneer mill companies for certificates of necessity.

The greatest single station contribution in regeneration was Occasional Paper No. 122 titled "Planting the Southern Pine" which summarizes 25 years of study. In the hardwood field the Delta Branch had a bulletin on "Planting and Growing Cottonwood on Bottom Lands," published by Mississippi Agricultural Experiment Station as No. 485. There is profit in growing the fast growing cottonwood.

The Station reported direct loblolly pine seed sowing results under various treatments at Crossett, Ark. The most effective was a November sowing of untreated seed on fresh burns, with 3,900 well-distributed seedling survival per acre.

Considerable space is accorded various methods and results of cull hardwood eradication, including both use and non-use of Ammate. These reports are from locations in several states. At Crossett costs per acre at 75¢ per hour for labor ranged from \$2.19 to \$4.82, with ammate at 15¢ per lb. and overhead 23.6¢ per acre. At the 85¢ wage rate and 24.2¢ overhead, costs ranged from \$2.43 to \$5.14 per acre.

FOR SCHIELD BANTAM CO.

C. W. SCHOLVIN, of 2949 Heather Place, Taylor Park, Harrisburg, Pa., named District Mgr. for East Ohio, Pa., West Va., Va. and Md., for SCHIELD BANTAM CO., makers of pulpwood loaders, cranes, grapples, etc., at Waverly, Ia. He formerly was with LeTourneau and LaPlante-Choate. His appointment is announced by G. O. BRITTON, Gen. Sales Mgr.



6-Ton Lorain Truck Crane

The Thew Shovel Co., Lorain, O., announces addition of a new 6-ton truck crane to their line of product. It is designated as Lorain Model TL-10 Truck Crane. It consists of a complete superstructure equipped as lifting crane which can also be used as a $\frac{1}{2}$ yd. dragline or clam-shell. It is designed primarily for field mounting on a suitable new or used truck furnished by the customer. However, it has many other applications such as mounting on piers, barges, ships docks, trailers, flat cars and the like.

AFPI Industry Head

Former executive director of the North Carolina Forestry Associates, William E. Edmunds of Lake Waccamaw, N. C., has been named to head the industry division of American Forest Products Industries, Inc., it is announced by AFPI's managing director, C. A. Gillett.

New Book on Forestry Helps Choose Career

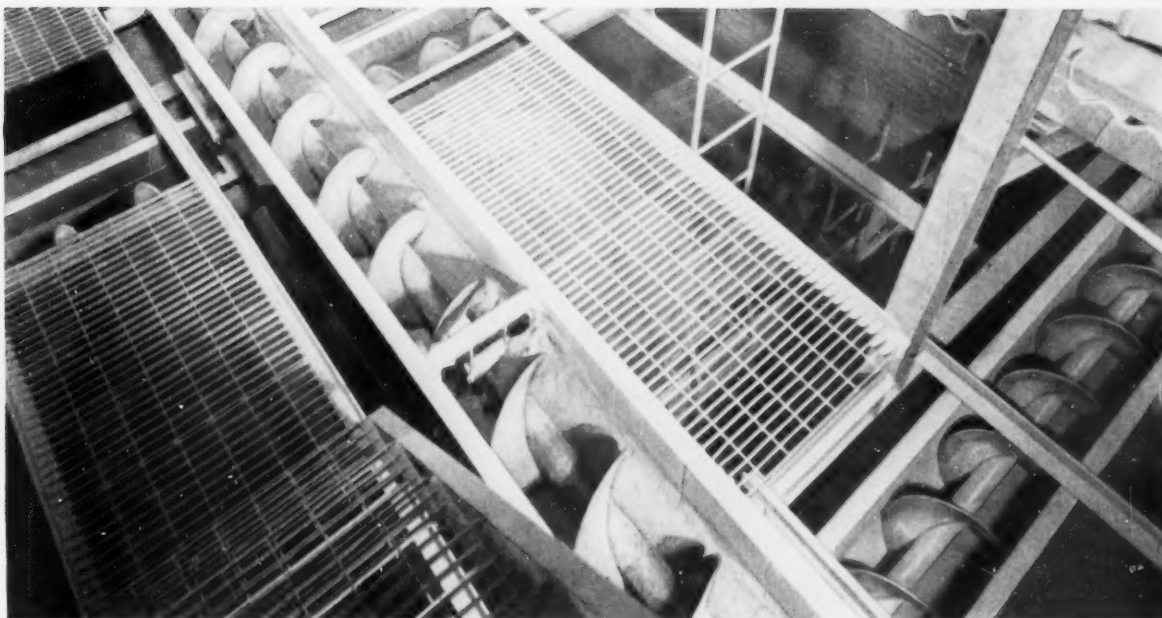
FORESTRY AND ITS CAREER OPPORTUNITIES by Hardy L. Shirley, dean of forestry, College of Forestry, Syracuse Univ., 492 pp., McGraw-Hill Book Co., Inc. (Copies may be ordered from PULP & PAPER, 71 Columbia St., Seattle 4, Wash. \$6.50).

Dean Shirley has (1) described forestry from its place in ancient times to its current place in the national and world economy and (2) presented background to help prospective foresters decide if it is the career for them. To the serious reader there is here a vast collection of authentic information than cannot help but enlarge his scope of forestry.

Roughly two-thirds of the book is devoted to historical and factual material—really a pocket-book forestry course in itself. It hits high spots, including most salient features, of the educational coverage given in general forestry, protection, silviculture, logging, utilization, pulp and paper, lumbering economics, range and watershed, recreation and other related fields. The author says the book, in fact, is a development of a course for freshman at Syracuse. For a forester who may wish to brush up on some phase of his profession, without browsing through dusty collegiate texts, he can find, e. g., a chapter on wood chemistry, paper and plastics.

The last seven chapters tell the young chap who wants a life in the woods ("far from the cares that are") that he had better watch his step. Especially if he is married. Dean Shirley suggests a forester's wife must often endure more disturbing hardships than her husband. He covers every phase of public and private forest employment. His recommendations are sound. The author strongly suggests that any job-seeker investigate the background and history of his prospective employer.

Quotes by the author, at random: "The forester who understands logging is likely to hold a far stronger position in his company than one who does not." "When forestry is integrated with the timber operating work, top management is unlikely to consider it a luxury that can be curtailed or discontinued during periods of adversity." "If the work of a forester has sufficient appeal to prove attractive, the pay will usually prove adequate for a satisfying life."



This Link-Belt 12-inch screw conveyor delivers screened mixed material to four 12-inch diameter reversible screw conveyors. These distribute to 16 raw-material storage bins through a series of discharge gates and chutes.

There's no substitute for "total engineering" in screw conveyors

LINK-BELT integrates all components to give you the right screw conveyor for your job

HERE'S how "total engineering" works for you when you buy Link-Belt Screw Conveyors.

First, conveying specialists analyze your problem. Then, Link-Belt's vast experience in design and manufacture is at your command to recommend the

screw conveyor—or system of conveyors—for your particular requirements. The right components are then selected from Link-Belt's complete range of types and sizes.

Link-Belt "total engineering" on your screw conveyors is your assurance of efficient design . . . balanced performance.

To benefit from Link-Belt's materials handling experience and engineering service, contact the Link-Belt office near you.

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SCREWS—Link-Belt makes a complete range of conveyor screws—Helicoid, Sectional Flight, Cut Flight, Ribbon Flight, Paddle type and other special types for such

diverse applications as feeding, conveying, mixing, agitating, stirring, blending, etc.



HANGERS—Available in a variety of styles and mountings, with various bearing materials and steel or cast hanger frames.



TROUGHS—Link-Belt builds flanged, angle flanged, flared, rectangular, dust-seal, jacketed and drop-bottom types in steel or alloy metals. Variety of connections, supports, covers and clamps offers added design flexibility.



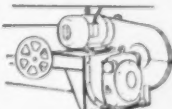
SPOUTS & GATES—Plain discharge spouts can be fixed or detachable. Discharge gates, flat or curved slide, can be hand or rack-and-pinion operated.



SHAFTS & COUPLINGS—Conveyor couplings and end shafts are designed for adequate torsional strength and have jig-drilled coupling bolt holes for accurate alignment.



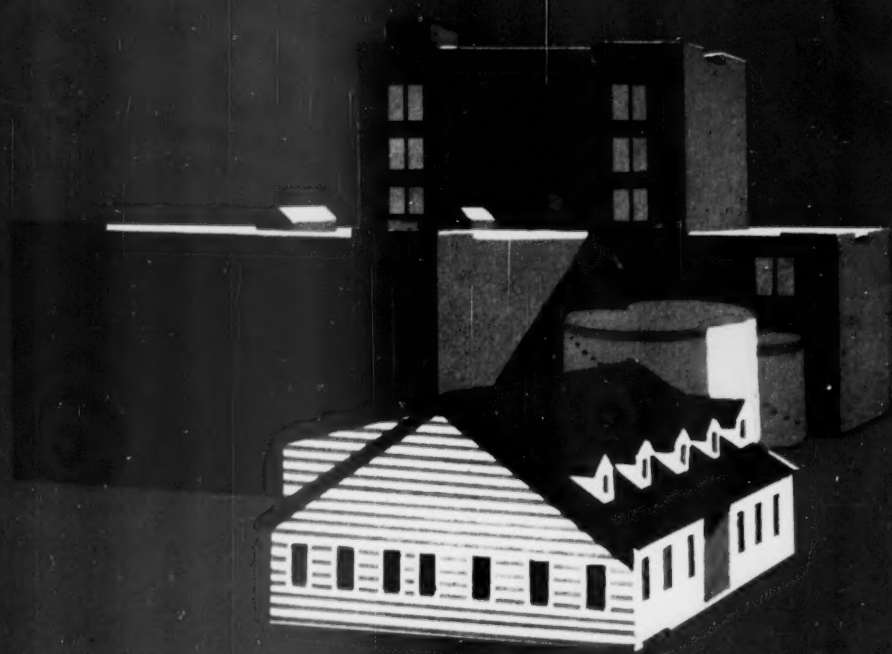
TROUGH ENDS—Steel or alloy metal plate or cast trough ends to match all trough shapes, provide required shaft bearing support and alignment. Seal glands to protect bearings, if required.



DRIVES—Link-Belt designs and builds many forms of drives to suit specific conditions—Enclosed gear, Electrofluid, P.L.V. variable speed, and chain drives of various types.

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LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices in Principal Cities.



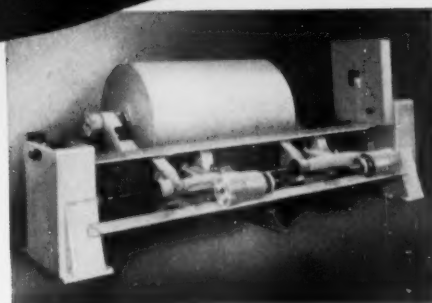
SCIENTIFIC CONTROL

Paper chemists in Puget Sound's scientific laboratories control every step in the production of pulp. This control, plus the most modern equipment, makes the ultimate quality of Puget bleached sulphite pulp... long-fibered, clean and white. Puget pulp has found ready acceptance for many years all around the world.

PUGET SOUND

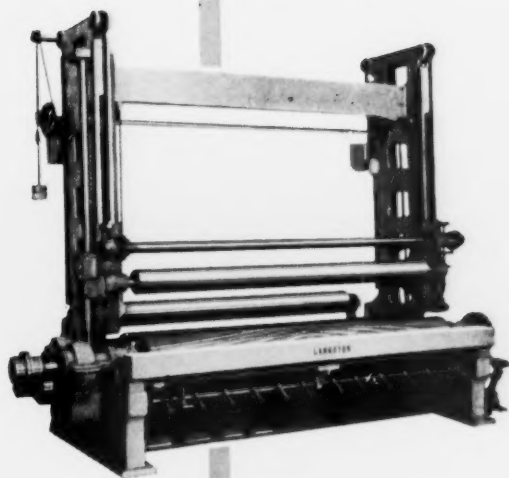
PULP AND TIMBER COMPANY
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LANGSTON SHAFTLESS *Mill Roll Stands*



Various types of Langston Mill Roll Stands are available, equipped with constant tensioning, side register control, etc. Special construction can be provided to receive customers' reels or unwinding shafts. Shaftless type, self loading Langston Mill Roll Stands also are available.

SAMUEL M. LANGSTON CO.
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Langston SLITTERS and WINDERS

GLUES BECOME SPECIALIZED

NEW PROCESS USED BY SWIFT & CO. IS ILLUSTRATED

Paper mills that produce specialty papers are finding increased uses for highly specialized adhesives to aid in the production of their finished products. Some of these adhesives are actually used in the processing and others are used in the final packaging. Some of the new glues are being used in the manufacture of paper as an aid in clay and titanium dioxide retention for flotation type saveall systems, and for creping of both facial and toilet tissues and paper napkins. These new adhesives are being used for finishing, for treating papers, for the manufacture of specialized paper such as high water resistance, greaseproofness, etc.

Bags for chipped ice must be made of wet strength paper that is later fabricated with high moisture resistant adhesives into the finished product. Potato bags require special paper and special adhesives for their manufacture. These specialty papers require synthetic resins for their manufacture and synthetic resins are used in the formulation of the adhesives to give the high water resistance required.

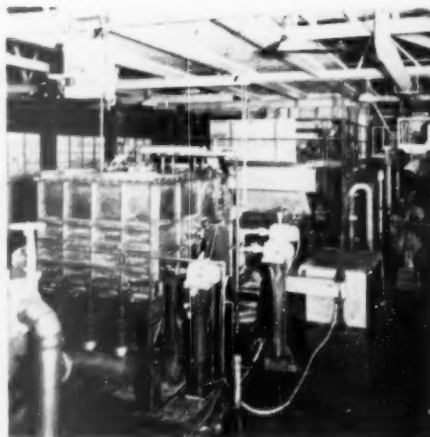
Most of the adhesives produced today for paper mills are highly specialized. There is no longer an adhesive that will meet all of the requirements of a specialty mill. There is an increasing demand for specialized adhesives in the paper converting field where the finished cartons, boxes, bags, drinking cups and other numerous paper articles are fabricated.

Specialty papers today are offered in a variety of colors and the adhesives that are used for their fabrication are, of necessity, inert to these colors; in other words, they must not stain or change the shade or toning of colors.

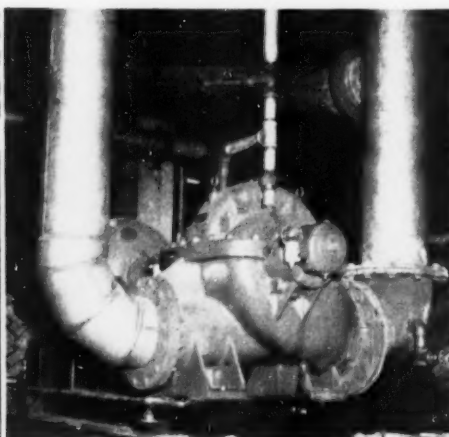
Many of the new resin emulsion-type adhesives have played a major role in the designing of new equipment. These new adhesives have enabled the converters to run at sometimes double their former speed of operation. At the same time the finished articles have such qualities as grease resistance, water resistance, mold resistance, etc.

Straight hide glue, run hot, has been the chief adhesive used in the manufacture of the two-ply cores for toilet tissues and towels, because hide glue runs faster than other types. Many of these cores are made on the new type Langston Machine that runs at a speed of 70 strokes a minute cutting off 7 cores each stroke. Of course, for the longer toweling work core, the stroke is cut to 3 per minute. New modified hide glues for still faster operations have been developed to a limited degree. It is expected that this product will aid papermills to get out greater production at a lower cost.

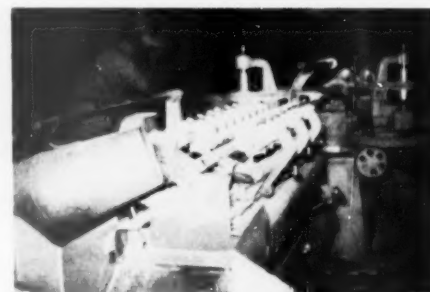
Today, paper mill men are taking advantage of the cooperative efforts of adhesive manufacturers in the utilization of new resins to design new machines for greater efficiency.



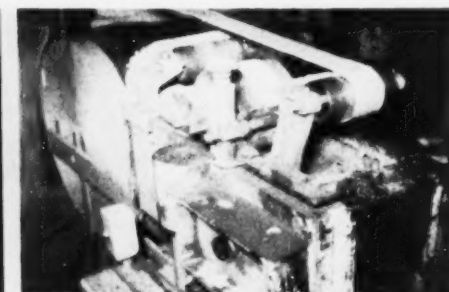
NO. 3 PAPER MACHINE at Pacific Coast Paper Mills of Washington Inc., is one of two machines at Bellingham, Wash., operations using Swift's New Process Glue in assisting creping process and improving its uniformity.



BIG BINGHAM FAN PUMP at the Bellingham, Wash., Mill. Prepared solution of Swift's New Process Glue is fed into stock at this point. Sometimes the glue will be added at the head-box. Practices in different tissue mills vary.



INTERESTING VIEWS showing how SWIFT & CO. is producing by-product for paper industry—SWIFT'S NEW PROCESS GLUE—by a new process. PROCTOR & SCHWARTZ Apron-Type Continuous Dryer is used. Left—SWIFT & CO.



switchboard and alarm setup for automatic control. Right—Dropping section of new process—shows concentrated solutions dropping onto dry glue bed.

Tissue Mills Use Specialized Glues

To produce better products with a greater degree of uniformity, many of the tissue mills are now employing specialized glues. The use of glue is valuable in the creping process because it improves the uniformity of the crepe. It becomes more and more important to tissue makers to produce uniform products not only day after day but the product itself must have a uniformity in the actual crepes so that results may be reproduced on a commercial basis.

Better formation of the tissue sheet is aided generally by the addition of glue. It helps to minimize the number of thick and thin spots and to bring to a minimum the number of actual pinholes. Glue performs this function by acting as a better flocking agent, and aids in keeping the natural wood resins dispersed, preventing an accumulation of tar like spots in finished tissue paper.

Probably the most important point in

tissue manufacture occurs when the tissue is lifted from the dryer at the doctor blade. The addition of glue gives a uniform adhesion of the tissue to the dryer and subsequently a uniform release. When glue is used in a creping system, the drying roll carries a mirror-like coating of glue on the surface which acts as the adhering medium.

How glue actually functions will probably always be a subject of discussion—as to whether glue causes the adhesion of the tissue to the dryer or whether it acts as a release medium. Hydrated cellulose in itself exhibits definite adhesive properties to the drying surface especially when the sheet is almost dried. Glue in the system gives a uniform adhesion between cellulose and metal as long as its moisture content remains above approximately 15%. Below this point in moisture content the adhesion of glue to metal is greatly decreased.

A number of tissue mills have found that Swift's New Process Glue has given added impetus to the use of this protein

WOOD PULP PAPER



Offices and representatives in 60 cities in the United States, Europe, Latin America, Africa, and Asia

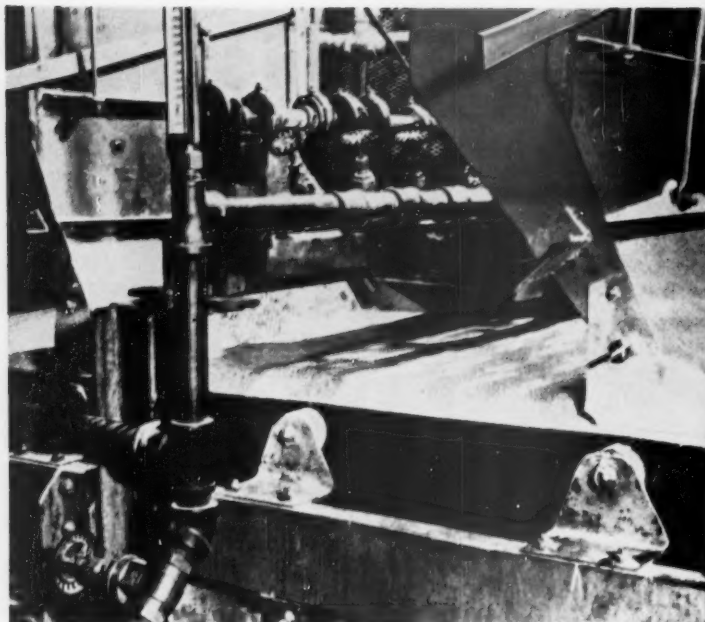
BULKLEY, DUNTON & CO., INC. • BULKLEY, DUNTON PULP CO., INC. • BULKLEY, DUNTON PAPER CO., S. A.
BULKLEY, DUNTON CELLULOSE EXPORTS, INC. • BULKLEY, DUNTON PAPER (FAR EAST) CO., INC.

In New England—CARTER, RICE & CO. CORPORATION

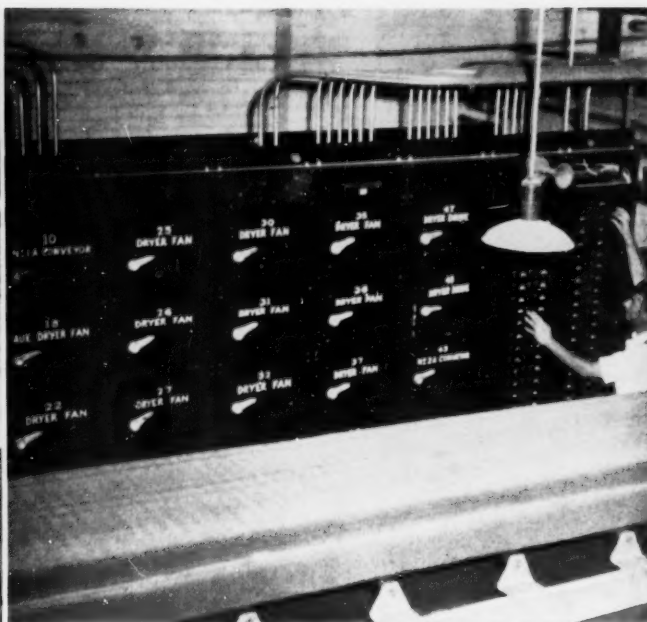


BULKLEY, DUNTON
ORGANIZATION

295 MADISON AVENUE, NEW YORK 17, N. Y.



LEFT—NEW SAMUEL M. LANGSTON CO. MACHINE runs 70 strokes a minute, cutting off seven cores per stroke, in making 2-ply cores for toilet tissue and towels. Core stock is made from screenings or broke usually. Cores are formed by a shaft and a belt. Picture taken in a specialty mill by PULP & PAPER.



RIGHT—At this section of machine, SWIFT'S Hide Glue is applied. It comes in powder or crystal form and is usually heated in an electric pot cooker by indirect steam before being used, water being added. It is applied to outer ply by glue wheel with doctor blade.

for creping purposes. A typical example is Pacific Coast Paper Mills, Bellingham, Wash., where it is being used regularly by being added to stock for both their No. 2 and No. 3 Yankee Fourdrinier machines. Other mills on the Pacific Coast use it similarly, and then usually adding it at the fan pump.

New Production Methods

New production methods have materially improved the appearance, odor and colloidal performance of this glue for use in the paper mills by producing a cleaner, faster-made product. The colloidal properties of the original organic compounds are retained by a continuous controlled process of manufacturing. This new process for making bone glue hurries the product along through a continuously operating process where there are no holding or delays which might cause decomposition. The raw material itself is much more closely controlled. Good, clean, fresh bones are kept under refrigerated conditions until they are ready for processing.

The drying of a gelatinous material has always been considered a difficult engineering task. However, the new Procter & Schwartz Apron-type Continuous Dryer gives maximum speed and efficiency. The glue is delivered to the paper manufacturer in clean 100# multi-wall paper bags. This eliminates the possibility of contamination from lint or burlap as well as provides a closed container which does not pick up dirt, cinders or other extraneous matter.

At the Bellingham mill, about 1 lb. of this new type of glue is used to each ton of finished facial-type paper. A prepared glue solution is fed into the fan pump. This rate of addition gives a uniform creping and release, it also maintains a



THIS CLOSEUP SHOWS PATTERN of the drops of concentrated solutions on the dry glue bed in SWIFT & CO. Process for specialized glues. An integral part of the new process system is this step.

uniform coating on the 12-foot Yankee Drier.

In the preparation of the glue at the mill they mix about 25 lbs. of glue in 50 gallons of water. They also mix in about 1 lb. of soda ash. (The product goes into solution readily at 120°F.) Generally 20 minutes is all that is necessary before the heat is turned on. The cooking is done right at the machine in the small cooker shown in picture #1.

The glue solution is fed (from the supply barrel) by a pet cock. A pet cock in the supply barrel allows the glue solution to drop into the fan pump where it mixes with stock and water.

Some paper mills have found it advantageous to add their glue solution at the headbox as they believe a more uniform and more efficient flock will take place at this point.

H. W. Beecher Dies

Henry Ward Beecher, for many years a consulting engineering specializing in power plants, builder of many of the big plants for the Pacific Coast pulp and paper industry, died Jan. 8 at his Highlands home in Seattle. From 1906-1938 he was with C. C. Moore & Co., and since then, an independent consultant.

Mr. Beecher, who was 70 on Dec. 18, was grandson of Henry Ward Beecher, famous preacher, and great-nephew of Harriett Beecher Stowe, author of "Uncle Tom's Cabin."

Borregaard Engineer Ends Long Stay in U.S.

Steinar Sandvig, engineer with the big Borregaard Paper Mill of Sarpsborg, Norway, exporters of sulfite pulp, returned home in January, ending a 6 months visit to many mills, including long stopovers at Hammermill, Mead, Champion, and Kalamazoo mills, the Institute in Appleton and U. S. Laboratory in Madison, Wis. He came over with 16 other Norwegians as Mutual Security Agency guests.

Mosinee Pays Off Bet

Russell V. Knapp, power engineer for Mosinee Paper Mills Co., is also president of the Mosinee, Wis., Lions Club. He and nine other members lost an election bet to the Seymour, Wis., Kiwanis Club. To pay off, Mr. Knapp and his colleagues had to journey to Seymour and buy dinner for the Kiwanians. The bet was over which town would turn out largest percentage of voters.

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Personals

MIDDLE WEST NEWS

FRED C. BOYCE, president of D. J. Murray Mfg. Co., Wausau, Wis., and founder of the Superintendents Association, reports that he has made a fine recovery from his recent illness.

DR. JOHN E. STONE, formerly with the National Research Council in Canada, recently joined the staff of the pulping and papermaking section of the Institute of Paper Chemistry, Appleton, Wis.

JOHN BALLAS of Neenah Paper Co. was recently admitted to the Old Timers Club of the firm. He will join the group of 117 employees, ranging up to **JOE BEISENTEIN** who has been an employee of the company 48 years. Included in the group are John Blank, Howard E. Larson, Melvin Redlin, Fay Cottrell, Kennan Hutchins, Antone Liebhauser, Elsie Schultz, Harry Wollenhoffer, Herman Bergman, Herman Blank, Harvey Loehning, George Seitz and George Schmidt. **JOHN STRANGE PAPER CO.**, Menasha, Wis., recently inducted four members into the Quarter Century Club. The new members are **JOHN LUEDTKE**, **JOHN SARNOWSKI**, **HARRY PAWLOWSKI** and **DANIEL RALEIGH**.

THOMAS F. NOLAN, JR., has been promoted to western sales manager of Oxford Paper Co. and Oxford Miami Paper Co., in Chicago. He succeeds **OLIVER S. BARRIE**, who has retired from active duties. **SAMUEL D. DILLON**, formerly Chicago sales manager, succeeds Mr. Nolan as assistant western sale manager.

COLA G. PARKER, president of Kimberly-Clark Corp., has been appointed a public interest director of the Federal Home Loan Bank of Chicago.

RICHARD F. NEFF resigned as vice president for sales of Sutherland Paper, Kalamazoo, and is moving to Southern California where he has business interests.

EVERETT C. UEBRICK, former sulfite supt. at St. Croix Paper Co., Woodland, Maine, has joined Hoberg Paper Mills as sulfite superintendent. Mr. Ueblick will succeed **WALTER CHRISTENSEN**, who held that position since April, 1948, and is retiring at his own request because of health. Mr. Christian Christensen continues with the firm in a technical capacity. He has been with Hoberg since 1925.

AUGUST BEODDY recently retired from The Mead Corp., Chillicothe, Ohio, after 37 years. Mr. Beoddy started work in 1922 as a millwright. Also retired after 50 years of service with Mead of the Chillicothe Division was **FRED HENN**.

JOHN N. BERGSTROM, a co-founder of the Bergstrom Paper Co. and a former president of that concern, who died June 19, 1951, leaves an estate valued at \$694,000, in trust to his widow. The city of Neenah, Wis., will receive \$50,000 from the estate if it establishes a museum within two years after his widow's death. Other bequests include Theda Clark Me-



IN MIDDLE WEST NEWS

(Left to right) **ROBERT L. LEAF, JR.**, who has been appointed Res. Mgr. and Purchasing Agent for the separate Groundwood Mill which is to be in operation this year at Shawano, Wis., for Little Rapids Pulp Co. He formerly managed their mill at Little Rapids which was sold to Hoberg.

HERBERT A. SMITH, newly promoted to Tech Director of The Mead Corp.'s Chillicothe, O., Division. He was a graduate of Ohio Wesleyan, attended the Institute in Appleton and has been with Mead since 1938. He is a leader for Boy Scout activities in his community.

O. S. "RED" BARRIE, who has retired after many years as Western Sales Manager for Oxford Paper in Chicago and as Sales Mgr. for Oxford Miami Division of Ohio.

memorial hospital, the First Presbyterian Church of Neenah, Lawrence College of Appleton, Carroll College of Waukesha, and relatives. Lawrence College and the Presbyterian church will each receive from the trust \$25,000 as first bequests, and twice that amount if estate residue permits.

FLOYD W. LOCKARD, controller of The Gardner Board and Carton Co., Middletown, Ohio, has also been named assistant to the vice president. Mr. Lockard has been with Gardner since 1925 and joined the company as a cost clerk in the accounting department. He attended Denison University, Brooklyn Institute of Arts and Sciences and the University of Cincinnati Evening School. In another executive change, **DAVID R. ARNOLD** was promoted to assistant controller. Mr. Arnold joined Gardner in 1950 as internal auditor and has been serving as director of management planning.

J. A. McPHERSON, assistant manager, Mosinee Paper Mills Co., Mosinee, Wis., and secretary-treasurer of the Northwestern Division of The American Pulp and Paper Mill Superintendents Association, has announced that the 1953 spring meeting of the Division will be held on May 8-9 at Dell View Hotel, Lake Delton.

HERBERT D. WAKE, of Green Bay, Wis., has joined E. C. Jacobi in representing Sandy Hill Iron & Brass Works and, W. E. Greene Corp. (Lodging doctors) in the Midwest. Mr. Wake graduated from Univ. of Wisconsin and has been with Socony-Vacuum. During the war he was a Navy engineering officer.

JAMES C. WORSHAM, tour foreman of The Crystal Tissue Co., Middletown, O., has retired after 29 years with the company. Before that he worked with other mills in the Miami Valley.

WILLIAM R. McNALLY, head of Link-Belt pulp and paper sales, turned over to **HANK STOEISS**, Fuller Co.'s pulp and paper specialist, the job of secretary of the Materials Handling Committee of the Engineering Division of TAPPI. Bill graduated from Duquesne; Hank from Columbia.

Roth Twins—Retired Mill Men—Live in Dayton

Ernest and Eugene Roth are twin brothers, both retired from papermaking and living in Dayton, Ohio. Incidentally they are father and uncle, of Charles E. Roth, pulp mill superintendent of the new Riegel Carolina Mill, whose picture appeared in November issue with others of the Riegel staff in our comprehensive article on that mill. Ernest Roth was a machinetender and Eugene was in finishing at the Aetna Mill in Dayton, parent mill of the Howard group, which incidentally is sharing in the new production of Riegel's.

L. C. CURRIER, vice president, charge of operations, Sorg Paper Co., Middletown, Ohio, is a ham radio operator, as a result of which he is probably just about as well known to that special species of humanity all over the United States and some other countries as he is to paper-makers.

JOHN R. JONES, first vice president of International Brotherhood of Paper Makers, from Albany, N.Y., discussed the union's interpretation of their responsibility to safety at the third meeting this season of the Twin City Industrial safety council in Menasha, Wis.

BUD E. SIMONTON, has been appointed superintendent of Toledo, Ohio factory of the Chase Bag Co., **F. H. LUDINGTON, JR.**, asst. vice president, announced recently. Mr. Simonton was formerly associated with the Union Bag, and more recently served as superintendent of several bag plants for St. Regis.

ROY RIVERS, a papermaker in American mills in the past and more recently in Latin America, is going to Balfour, India, to operate a new mill there, and said farewell to many friends in Chicago.

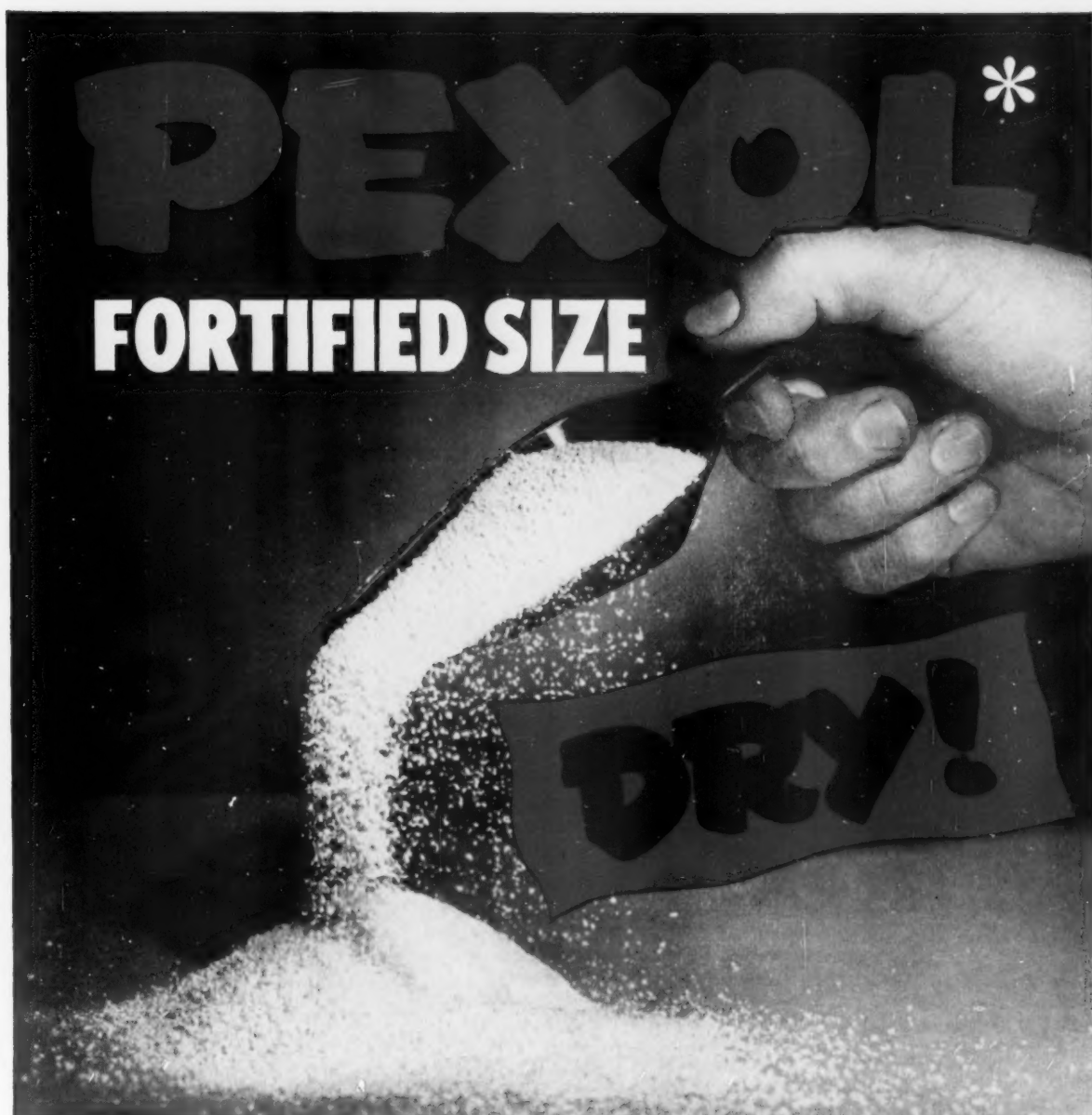
C. R. SEABORNE, exec. v. p., Thilmany Pulp & Paper, presented pins to past presidents of the Thilmany Foremen's Club: **FRANK KREILING**, **CARL CHOPIN**, **WAYNE CARR**, **AL KLAMMER**, **FRANK FERRIGE** and **JOE SCHERER**.

F. LEROY ZELLERS, mill manager, Chillicothe Paper Co., is chairman of the blood donors program in Ohio's Ross county, and also chairman of the county Community Chest drive as well as serving on the board of directors of Chillicothe's Chamber of Commerce. He is having a busy year!

CECIL HESS, graduate of the Institute in Appleton, who joins the research dept.; **CARROLL THUREEN**, another researcher from U. of Minnesota; **WARREN PETERSON**, project engineer, and **ERNEST GUSTAFSON**, hydraulic engineer, have joined M & O Paper at International Falls, Minn.

JAMES TIPPET, a graduate of Purdue in mech. eng., 1950, has been promoted to chief power engineer of Northern Paper Mills, Green Bay, Wis., according to Harry Gochnauer, chief engineer. Mr. Tippet has been acting power chief since the death in July of Norris Hildebrand, who had held the post. Mr. Tippet was born in Wausau, raised in Milwaukee, and he is married.

MIAMI VALLEY SUPTS. newly-installed officers are **BERNARD L. MERRISS**, Oxford Miami Paper, chairman; **GEORGE LYDICK**, Beckett Paper, 1st vice chairman; **DEAN NEWELL**, Philip Carey Mfg., 2nd vice chairman; and **JAMES OZIAS**, Oxford Miami Paper, secretary treasurer.



If you're set up to use dry size, and you'd like to get the many advantages of a *fortified* size, you can do so—with dry Pexol. Mills report substantially lower size cost per ton of paper and paperboard when using Pexol dry size. Similar savings are effected through use of paste Pexol.

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Paper Makers Chemical Dept., **HERCULES POWDER COMPANY** 965 King St., Wilmington 99, Del.

SIZING MATERIALS AND CHEMICALS FOR PAPER

February 1953

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NORTHEASTERN NOTES

J. H. BRAUN has joined Hooker Electrochemical as its director of research at Niagara Falls, N.Y. He was formerly with General Aniline & Film Corp., and before that with Sun Oil Co., in high executive and research posts.

JOHN J. ZIMA, who we previously announced had been made acting secretary-treasurer of the Newsprint Service Bureau in New York, was appointed permanently to that position by recent action of the board.

WILLIAM J. ARGY, former superintendent of the Harrisville, N.Y., mill of St. Regis, is planning to take a rest. He said he had no other future plans for the time being.

GEORGE E. OSTERHELDT, has retired as salesman in New York and New Jersey for the Pigments Dept., DuPont Co., has retired. He also retired as Mayor of Cranford, N.J., a year ago after serving in that position 19 years, having been elected seven times.

SCOTT HOFFMAN is the new pulp mill superintendent for Hammermill Paper Co., Erie, Pa., having succeeded **LUTHER BEIGHEY**, who will continue as consultant for the company and who will make a tour of U. S. pulp mills for Hammermill. **J. HOWARD WRIGHT**, with headquarters at Downingtown, Pa., will be sales engineer for The Bauer Bros., manufacturers of Centri-Cleaners and Pulpers, will represent that company in Pennsylvania, New Jersey and Delaware. He graduated from Clarkson College and has been with Crown Z. at Carthage, N.Y., Diamond Match at Plattsburg, N.Y., Southland Paper Mills, W. C. Hamilton, Sitroux Inc., and Austin Bicking Paper.

LAURENCE T. WATERMAN has been appointed general superintendent of St. Regis mills at Carthage, Herrings and Wattertown, N.Y., succeeding W. B. Mills who was moved to the kraft center in Pensacola, Fla. to fill a similar position.



IN PACIFIC COAST NEWS

WALTER F. HOLZER (left), Asst. Director of Research, Crown Zellerbach Corp., who has been promoted to Assistant to the Vice Pres. in Charge of Manufacturing (Reed Hunt, of San Francisco). Dr. Holzer will remain in research headquarters at Camas, Wash., but will be liaison man with top management. He has been at Camas since 1929 except for a few years in Wisconsin at the Institute and with Rhineland and Fox River Paper Corp.

WILLARD E. OSBORN (right), who, as previously reported, has moved west to be a representative for Improved Paper Machinery Corp., assisting **JAMES RUBUSH**, of Wenatchee, Wash., their chief sales representative on the Pacific Coast. Mr. Osborn has made headquarters at 8012 Lawndale S. W., Tacoma 9, Wash.

INDUSTRY APPOINTMENTS



WALTER LAWRENCE (left), who for many years represented Soundview Pulp and before that, Bulkley, Duntun in the Middle West, has recently joined **PULP SALES CORP.**, New York City, according to announcement by **Ernest Erickson**, President. Mr. Lawrence will be located at the New York offices at 230 Park Ave., and make his home in New Rochelle, N. Y. **J. HOWARD WRIGHT** (right), with headquarters at Downingtown, Pa., has been named Sales Engineering Rep. for **THE BAUER BROS. CO.**, in Penn. N.J., and Delaware. He had been with several pulp and paper companies in New York and Texas before joining Bauer.

Executive V.P. at Union Bag

G. W. E. NICHOLSON, Executive Vice Pres. in charge of Mfg., Union Bag & Paper Corp.



G. W. E. (Gunnar) Nicholson, who has been a vice president of Union Bag & Paper Corp. for the past six years, has been elected executive vice president in charge of manufacturing. Mr. Nicholson joined Union Bag 12 years ago and served as resident manager of the company's huge operations at Savannah, Ga., until his election as a vice president in 1946. He has had more than 30 years with the industry in Canada and the United States.

Following experience with several companies in Canada, Mr. Nicholson came to the United States and from 1927 to 1931 served as general superintendent for the Bogalusa Paper Co. in Louisiana, and then for 10 years acted as general superintendent and manager of various mills in the Southern Kraft Division of International Paper Co.

A president of TAPPI in 1936, Mr. Nicholson "fathered" the engineering division of that organization and was also instrumental in organizing the corrugated container committee for the group.

Since joining Union Bag in 1940, Mr. Nicholson has seen pulp production of the company rise from 600 tons a day to its present capacity of 1500-1600 daily tons. The current expansion program is expected to raise this to 1900-2000 tons daily before the end of 1953. So that his company, in addition to having the largest converting operation in any single location, will have the largest pulp, paper and board production of any company in any one integrated operation.

SOUTHERN NEWS

WINSLOW B. MILLS has been appointed new general superintendent of St. Regis pulp and paper mills at expanded Pensacola, Fla., Kraft Center. He was general superintendent for company mills in northern New York.

KARL R. BENDETSEN, who resigned as under secretary of the army, a position he held most of 1952 in Washington, D.C., after being assistant secretary and consultant to the secretary, has joined **Champion Paper & Fibre Co.** He is general consultant to **W. R. Crute**, division manager and vice president, Pasadena, Texas, operations. Born in Aberdeen, Wash., he studied engineering and law in Washington and California.

HOWARD SIMONS, of Vancouver, B. C., newly appointed consulting engineer of the new Texas Pulp & Paper Co., (Houston Oil and Time-Life), which will build its pulp and paper mill at Evadale, Tex., will set up a branch office of the Simons engineering firm in Texas.

FREDERICK W. DRAKE, who represented Lockport Felt in the South for a number of years, having retired in 1947, died on Dec. 12 at the age of 79 in his home near Pittsburgh.

NEW CROWN Z APPOINTMENTS



CROWN ZELLERBACH CORP. announced these changes (l to r): **WILLIAM HART**, San Francisco, appointed Secretary of a newly formed Executive Development Committee; **E. A. (MIKE) PAUL**, who succeeds Mr. Hart as General Personnel Supervisor for all C-Z operations and moves to San Francisco; and **HAROLD F. CARPENTER**, who moves to Camas, Wash., to succeed Mr. Paul as Industrial Community Relations Supervisor at that mill. No successor was named for Mr. Carpenter who was Asst. Res. Mgr. in Port Angeles.

INDUSTRY APPOINTMENTS



(l. to r.) **H. L. RAMMER**, Vice President in Charge of Production, appointed Technical Director for all 16 plants of Fibreboard Products, Inc. He had held similar position at the Stockton, Calif. mill; **A. L. MAGNUSON**, who attended Northwestern U., operated his own dairy business for five years, and joined Kelco in 1939, has been appointed new Technical Director, Paper Dept., Kelco Co., Chicago; **HENRY J. PERRY**, consultant and former editor is Director of the newly formed Waste Paper Utilization Council, headquarters at 122 E. 42nd St., formed to promote greater use of waste paper.

EASILY HANDLES 3000 POUNDS OF BROKE PER HOUR
on an economical 35-40-h.p.

No. 1 **E.D. Jones Pulp-Master**

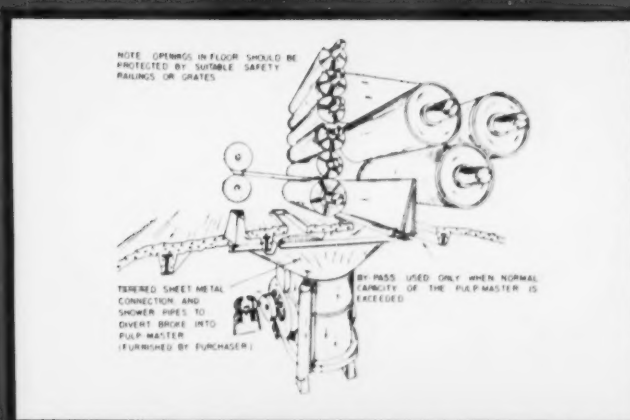
Ideal for installation under your paper machine, the Jones No. 1 Pulp-Master will easily handle 3000 lbs. of broke per hour, extracting completely pulped stock continuously through non-clogging perforated plates. Slabs? — sure, slabs up to the full width of your machine can be dropped or thrown in, and are almost instantly disintegrated.

Simple and fool-proof in design and operation, it requires no operators beyond the regular machine crew, and is free from troublesome maintenance problems. Power consumption, an economical 35 to 40 h.p.

Three other sizes of Jones Pulp-Master are available with capacities up to 4000 lbs. at 6½% or even higher densities, for batch or continuous operation.

Illustrated above in stainless steel, the No. 1 Pulp-Master is also available in regular carbon steel or for economical tile tank construction.

Delivered completely assembled, it is readily anchored in position (see suggested plan at right), piped up and connected to driving motor, ready to do a truly amazing job of pulping broke continuously.



E.D. Jones

E. D. Jones & Sons Company, Pittsfield, Mass.

BUILDERS OF QUALITY STOCK PREPARATION MACHINERY

Ask your Jones representative for full details of the Pulp-Master Line, or write us for Bulletin EDJ-1019 B.



Wisconsin Workshops

(Continued from page 32)

help APPA organize groups in other areas . . . during the year, 11,000 business miles were traveled in administrative work and 'service calls' on member mills."

For future meetings in 1953 and the years hence, the Wisconsin group has indicated a preference for half "workshop" and half "inspirational" type meetings.

Scott's Dunning in Talk

One of the most interesting meetings of the past year was the appearance of Harry Dunning, vice president of Scott Paper Co., who is widely known in his company and outside it, too, for his annual "How're We Doing" reports. His rapid-fire delivery, augmented by mechanical charts and graphs, are presented at every Scott plant or large division to meetings held on company time.

He told how his ideas developed for these reports. The first conception of the idea went back many years ago when Mr. Dunning was faced with discouraged crews, piling up of broke in an acquired plant, all because the reasons for high quality specifications were misunderstood. He found that when he explained the "why" as well as the "what" in company orders, it made a remarkable difference in enthusiasm and accomplishments of employees. This grew to his present annual tour, giving his candid reports on sales, profits, taxes, employment and wages, and his "guesstimate" for the next year's operation.

Mr. Dunning said Scott management felt no outsider could do the job for them; top management had to lead the discussions. Each meeting lasts one hour or more, often with lunch or dinner served, and time and a half is paid if it isn't served. In some mills, Mr. Dunning gives his talk five times in one day and evening.

Actual figures are given, "and we never duck the bad ones," he said. Simple English, occasional jokes "to clear the air" and elaborate electrical props that cost about \$3,000 are features of the show. He stresses that he "is not talking politics" when he discusses the "tax take." "What

NORTHERN PAPER MILLS "rang the bell" with these display advertisements in the Green Bay, Wis., newspaper. That first one at top left—"Is Your Home Mortgaged? So is Northern Paper Mills"—drew lots of favorable comment in Wisconsin. Top right—told how "hundreds" of people own Northern. Below—one ad relates how Northern paid \$7,457,873 in taxes in five years; the other how the "Folks at Northern" spent nearly \$7,000,000 in Green Bay businesses.

Makes a Job?" is another portion of the talk and this is followed by "What a Job Makes." Each dwells on the investments and dollar values involved. And the talk ends on an inspirational vein.

In answering questions, Mr. Dunning pointed out that Scott gives one share of common stock, tax free, as a service ward every five years. He said the HWD talk got an 87% rating in a good attitude survey, "but on another survey we found that 5% didn't even like our free stock awards." Four or five days advance notice is given of meetings, supervisors urge attendance, at one small mill only wives also are invited, and attendance is about 90 percent of employees. Generally, they are eager for the information.

Applying of sight and sound media—a panel discussion on audio-visual educational media—took up a full day of sessions last year at another meeting. Visual instruction and moving picture experts were brought in. It was brought out that over 2,000 U.S. plants are making use of noontime film showings. General Electric has a "package film" for all employees. A General Motors executive called the film media "the most powerful tool for putting ideas into men's heads that ever came into selling." Weyerhaeuser was cited as another pioneer in this activity and its movie "The New Paul Bunyan" was shown.

Before this, another 1952 meeting of the IS, WPI had an exhibit of its own, something along the lines of the one being held at Paper Week this month. Bulletin boards of different Wisconsin companies were displayed. "Getting out the vote" was another timely subject of this meeting, and the participants went into that matter in great detail.

"Press Handbook" is one of the interesting and useful publications of the Wisconsin group. It describes how to meet and deal with the press, how to prepare news releases, suitable subjects for stories, ways to help the community through the newspaper. This booklet carried a complete directory of Wisconsin papers with the names of editors or publishers and pertinent facts about publication times, politics, circulation. Likewise, it listed radio stations in Wisconsin similarly. And briefly listed trade publications. It showed examples of newspaper stories about paper companies.

Typical of the attendance at the Appleton meetings, here were members and guests present for Mr. Dunning's talk:

R. W. Mahoney and John Reeve, Appleton Coated Paper Co.; F. P. Doane, Jr., A. R. Hedlund, H. R. Moore and W. A. Long, Bergstrom Paper Co.; N. D. Barney, B. J. Boerner and C. R. Johnston, Cornell Paperboard Products Co.; F. W. Brainerd and F. B. Harvey, Falls Paper and Power Co.; Clarence Elmgren, A. C.



HARRISON F. DUNNING (left), Vice Pres., Scott Paper Co., and Vice Pres., Marinette Paper Co., Division of Scott, who told how he developed his "How're We Doing" talks from experiences when in charge of production at an acquired mill. MILAN BOEX (right), Pres. and Gen. Mgr., Northern Paper Mills, who introduced Mr. Dunning to a Wisconsin "Workshop" meeting at Appleton, Wis.

Haselow and G. M. Gilbert, Gilbert Paper Co.; George Kress, Green Bay Paper and Pulp Co.; B. J. McClosky, Ed Marinik, Nick Miketinac and R. C. Pratt, Hoberg Paper Mills; M. J. Schulenburg, F. S. Seaborne, P. H. Vanderheiden and A. W. Wilkinson, Kimberly-Clark Corp.; Charles Ingliss, C. R. Geisler, Robert Suess and R. J. Sund, Marathon Corp.; R. M. Heath, Marinette Paper Co.; Hugh Foster, National Container Corp.; P. H. Groh and D. H. Severson, Neenah Paper Co.; Milan Boex, J. P. Buchanan, E. E. Den Dooven, H. W. Gochner, H. C. Niles and R. J. Turek, Northern Paper Mills; J. H. Fennema and L. J. McNamara, Rhinelander Paper Co.; C. J. Hawkinson, Riverside Paper Corp.; P. H. Gideon and Philip Kraushaar, St. Regis Paper Co. (Mich.); H. F. Dunning, Scott Paper Co. (Pa); L. A. Blume and J. H. Levandoski, John Strange Paper Co.; W. W. Owens, C. R. Seaborne and L. C. Smith, Thilmany Pulp & Paper Co.; R. D. Alft, Ward Paper Co.; Louis Gavatos, Western Michigan College of Education.

Paper Week Top Flight Speakers Scheduled

Four longtime top-flight executives of this industry will be spotlighted as speakers at the General Industry meeting of the American Paper and Pulp Association in the Waldorf-Astoria hotel, New York, on Feb. 18 (beginning at 2 P.M.) This is one of the big meetings of Paper Week.

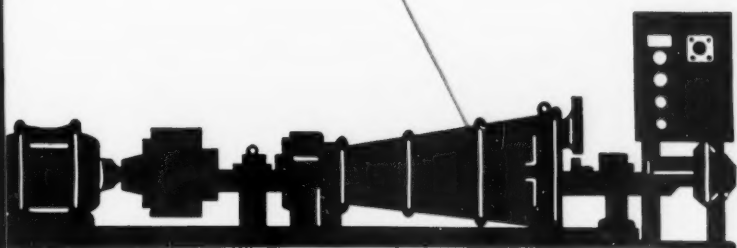
They are: Sydney Ferguson, chairman of Mead Corp. and president of the association; R. B. Robertson, Jr., president of Champion Paper & Fibre; R. A. McDonald, former executive vice president of Crown Zellerbach and now consultant and director for the Houston Oil-Time mill planned in Evadale, Texas, and Ernst Mahler, who recently retired as executive vice president of Kimberly-Clark. Mr. McDonald, retired from C-Z, was recently NPA top administrator in Washington, D.C.

Wisconsin Addition

Wisconsin Tissue Mills of Menasha, Wis., is adding its sixth warehouse with 6,600 sq. ft. storage space.

● **BOLTON Fillings** last longer in any Jordan

High quality precision-made **Bolton fillings** will last longer in any Jordan, whatever its make or design. Technical skills and knowledge, gained through many years of experience, go into the selection and treatment of the metals and woods. Meticulous attention to the details of machining, assembly and fitting insures maximum life and satisfactory service. **Bolton fillings** are made for any design of Jordan. In addition to those listed, other metals and separators are available for individual requirements.

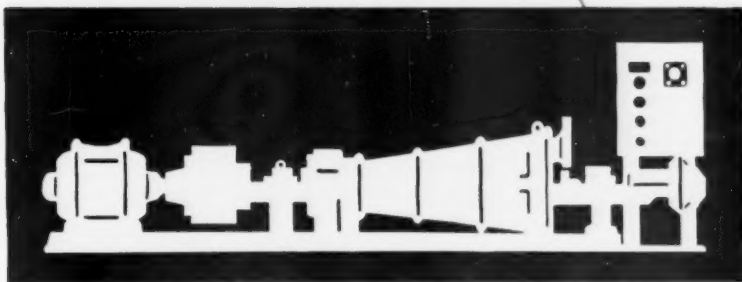
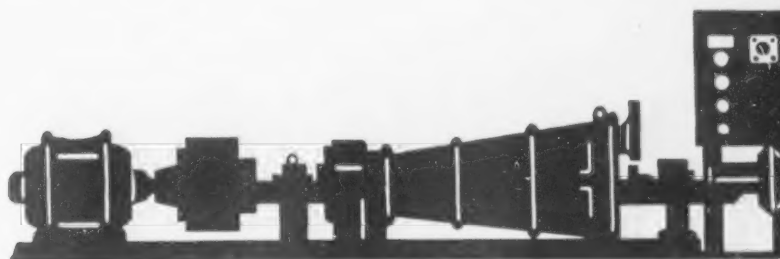


BOLTON SPECIAL HEAT TREATED STEEL

Metal specially selected and heat treated by Bolton for use where service is hard. Tough, terrifically hard steel stands up under severest use and abuse.

BOLTON PHOSPHOR BRONZE

Particularly adaptable where brushing and hydration are required, and minimum cutting is needed. This Phosphor Bronze is practically immune even to extreme acidity. The edges of a set of Phosphor Bronze fillings will last for years under acid conditions that wash away steel edges in months.



BOLTON SPECIAL STAINLESS STEEL — A true stainless steel specially hardened, with corrosion resistance well beyond requirements in the paper industry.

**"He who buys
BOLTON
buys best"**

John W. BOLTON ● & Sons, Inc.
Lawrence, Massachusetts, U.S.A.

AT AN INTERNATIONAL FALLS MEETING



THESE TOP EXECUTIVES OF MINNESOTA & ONTARIO PAPER CO. were speakers at a recent Mayo Supervisors Club meeting in International Falls, Minn. (l to r): J. F. MACKELLAR, Vice Pres.-Gen. Mgr., Canadian Division, Fort Fran-

ces, Ont.; CLARENCE LARSON, Vice Pres.-Production, M & O, Int. Falls; C. T. McMURRAY, Exec. Vice Pres.; J. B. FAEGRE, Pres.; PAUL A. ANDERSON, Publisher of Int. Falls Daily Journal; LESTER POLLARD, Woods Mgr., Int. Falls Div.

ANNUAL BROWN CO. WOODS FIELD TRIP



IN PICTURE at left: JIM KEENAN (left), retired Woods Supt., and PRES. LAURENCE F. WHITTEMORE of Brown (right), dedicating Keenan Bridge over Magalloway River, for 21-mi. truck hiway opening 100,000 acres of hard and soft woods. At right crane loads whole trees up to 32 ft. long on diesel trailer-truck, for Berlin, N.H., mills.



Some 200 guests made Brown Co.'s Third Annual Woods Field Trip this last fall. They viewed mechanized logging, ate woodsmen's fare and heard Maj. Gen. Howard Kennedy, Canadian woodlands authority say: "Northern New England has the greatest (wood production) potential of any area in the Northeast or including Eastern Canada."

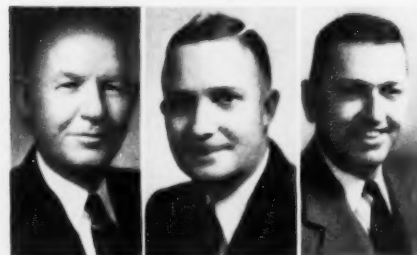


ENTHUSIASM OF THIS SOUTHERN GROUP is indicated by how many seemed to be talking as PULP & PAPER took picture at Roanoke Meeting. Standing (l to r): H. E. ROBERSON, North Carolina Pulp; JOHN NASWORTHY, Union Bag; HARRY DEFFEY, Standard Paper; C. W. LINEBAUGH, Schmidt & Ault; D. E. JONES, St. Regis; ALBERT FUTCH, Union Bag; HOMER LUSBY, St. Regis. Middle row (l to r): JOHN McDERMOTT, St. Regis; J. C. HAIR, Crossett; F. H. SINGLETARY, Calcasieu Paper; W. W. JACKSON, Southland. Front row, BOB BURNETT, Crossett, and W. L. JONES, Hudson Pulp & Paper.



PANDIA DISCHARGER recently placed on market by Pandia Inc. for continuously and uniformly discharging pulp at constant rate from Chemi-Pulper Continuous Digester to atmosphere. The Discharger operates satisfactorily with any usual cellulosic raw materials used in paper; uses only a fraction of a horsepower per ton; is equipped with one or more continuous blow valves adjustable while Chemi-Pulper is in operation; has low operating and maintenance costs.

MARATHON MANAGEMENT



ROY H. KELLY (left), appointed Chief Paper Mill Superintendent for all Marathon Corp. mills. CHARLEY WAGNER (middle), succeeded Mr. Kelly as Resident Manager of the mill at Rothschild, Wis. JOHN W. FITZPATRICK (right), succeeded Mr. Wagner as Manager of the Waxed Paper and Paper operations at Menasha, Wis. Mr. Fitzpatrick has been Manager of the Manufacturing Division's Central Methods Dept.

CHANGES AT HAMMERMILL



NORMAN W. WILSON (left), ends over 12 years as President of Hammermill Paper Co., Erie, Pa., to become Chairman; DONALD S. LESLIE (middle), becomes President and continues as General Manager, and DR. OTTO F. BEHREND (right) co-founder, now 80, announces he will retire as Treasurer next May 12. He was injured when struck by an auto last spring. The other co-founder, Ernst Behrend, died in 1940, when Mr. Wilson became second President.

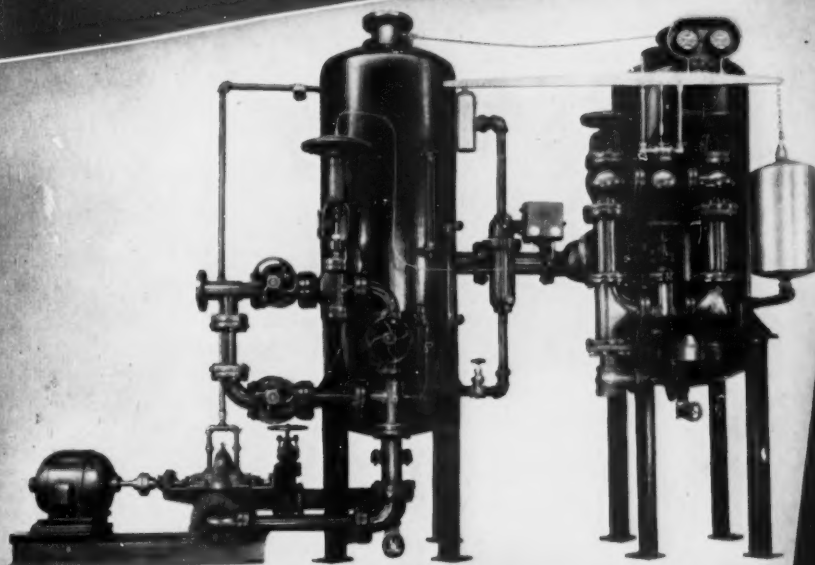


PINS WERE RECENTLY PRESENTED TO CZ EMPLOYEES at Camas, Wash. C. W. Timmons, of maintenance department, receives award from Executive Vice President H. L. Zellerbach of Crown Zellerbach Corp. in recognition of 35 years service. Sam R. Runyan, Industrial relations department, who received 25-year pin, in center.



PULP & PAPER

an eye opener...



A typical Fulton Unit for a two-section Drying System on medium size machines.

10% to 30% production increase.

Positive reduction in steam costs—even with tonnage gains.

Improved quality. Uniform drying. Less cockle or curl.

Moisture content control.

No over-drying.

Engineering survey-machine study. No obligation.

It is almost incredible—but an eye-opening nevertheless—that the prompt removal of condensate and air from paper machine dryers has prompted the installation of 1000 Fulton Dryer Drainage Systems.

That is a lot of installations and potent indeed, must be the advantages that accrue.

Fulton Systems are standard equipment these days—so specified by every builder of paper machines in America. Almost all of the newer machines have them. Hundreds of the older machines have them—but not all.

It is of this latter group—older machine

operators and smaller machine operators—that these five questions are directed.

- Would you like to do a more uniform job of drying?
- Would you like to eliminate cockle and curl?
- Would you like to avoid over-drying?
- Would you like to cut steam costs?
- Would you like to dry faster and increase your tonnage?

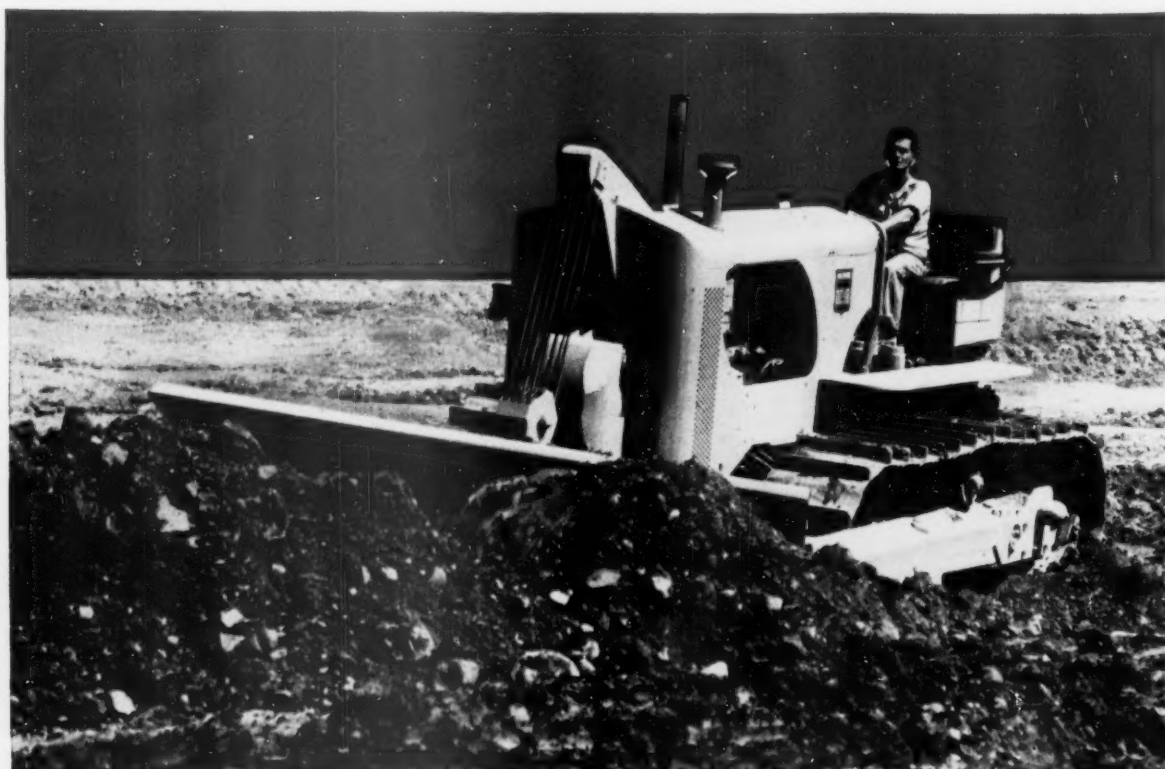
If your answers are yes—be your machine old or small—Fulton Dryer Drainage can be applied to 3 great advantages—and at reasonable cost.

Get our technical bulletin. It's a real eye opener.

*fulton
dryer-drainage
systems*

THE MIDWEST-FULTON MACHINE CO.
DAYTON, OHIO

Owners' pride . . . Operators' delight the **NEW OLIVER** "OC-18"

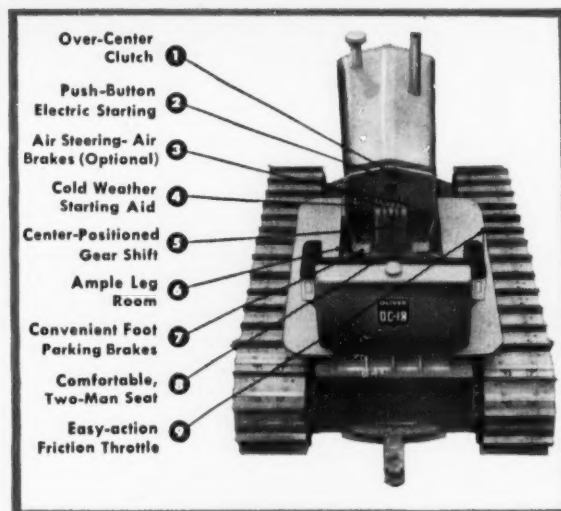


OWNERS can't say enough good things about the new Oliver "OC-18." They keep telling us how it does more work . . . how that full 133* drawbar horsepower gives it plenty of power for the really tough jobs . . . about its low operating and maintenance costs . . . and how the operators and mechanics like it.



OPERATORS are even more enthusiastic. It's the first big tractor they've found that is designed to make life easier for them. They tell us that toward the end of a long day on the "OC-18," they are much less fatigued, much more fit to continue giving top performance. The illustration shows clearly the 9 important "easy operating" features of the "OC-18." No other tractor boasts all these. They make the "OC-18" "the operators' dream come true."

Ask your Oliver Industrial Distributor to arrange a demonstration. Or if you prefer, write to The Oliver Corporation, 400 W. Madison St., Chicago, Illinois.

*OFFICIAL NEBRASKA TEST NO. 489



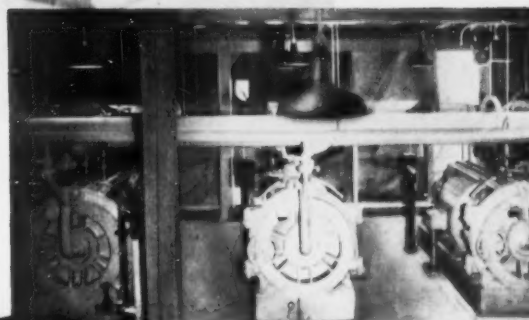
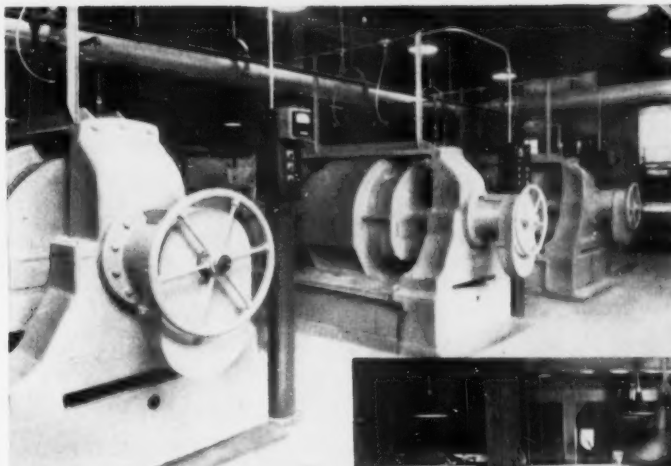
THE OLIVER CORPORATION
400 West Madison Street, Chicago 6, Ill.

A complete line of industrial wheel  and crawler tractors 

for economical ^{HIGH YIELD KRAFT} pulping—

WEYERHAEUSER TIMBER CO.
PULP DIVISION USES

Sprout-Waldron Refiners



THE FIRST HIGH YIELD KRAFT PULP MILL ON THE PACIFIC COAST

uses three Sprout-Waldron 450 h. p. 36-2 Refiners
for Hot Brown Stock Refining

high capacity

flexibility of operation

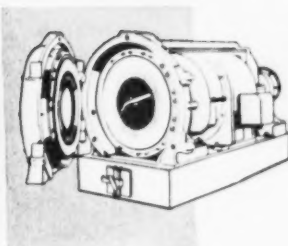
The
SPROUT-WALDRON
refiner is the
leading producer of
high yield
pulp

high pulp quality

rugged construction

Does High Yield Kraft Pulping fit into your plans?
Send for Bulletin 92—"High Yield Kraft Pulping—a Process Study".
Sprout-Waldron & Co., Inc., 32 Logan Street, Muncy, Pennsylvania.

**S
W**



SPROUT-WALDRON

PULP REFINERS

A Baldwin

A black and white photograph of a man in a white shirt and light-colored trousers standing in a paper mill, looking at a large roll of paper being processed by machinery. The man is seen from the back, looking towards a large roll of paper being processed by a complex machine. The machine has various rollers and structural components. In the background, there are stacks of paper and a sign that reads "WE ARE JUDGED BY THE B". The overall scene is industrial and dimly lit, with some overhead lights visible.

BALDWIN

Philadelphia 42, Pa.

Baling Press

makes them "neat and secure" in the world's most up-to-date pulp mill

Considered to be the most instrumented plant of its type in the world, the 200-ton pulp mill of the Riegel Carolina Corporation of Acme, N.C., is the last word in modern, up-to-date equipment.

Typical of the machinery installations is this 600-ton Baldwin hydraulic press having a 21" diameter main ram with a 26¾" stroke, as well as two double-acting side rams 7 x 5¾" in diameter . . . designed to keep baling operations in step with high speed production methods and required high performance standards.

The dependability, flexibility and top-performance that is so vital in all production line equipment is assured by the many advanced features offered in Baldwin equipment. Full pressure is available at any point in the stroke, so that variations in loading do not affect capacity; rapid ram return speeds operation; positive, simple controls give operator complete command of the press at all times; interlocks and safety devices eliminate hazards.

Because they're designed from long-time experience and built to the highest standards of precision manufacture, Baldwin presses offer *better, faster, more profitable* press operation. No matter what your pressing problem, you'll find it will pay you to call your nearby Baldwin representative.

Baldwin 600-ton press baling pulp sheets at the Riegel Carolina plant. Conveyors from two machines—one on semi-chemical and the other on bleached kraft—feed sheets to press.

-LIMA-HAMILTON

Offices in Principal Cities.



COMPLETE SERVICE

Design

Installation

Maintenance

Repair

Corrosion-Resistant

TILE TANKS

and

LININGS

for Acid and

Alkali Conditions

PULP MILL

SULPHITE

Digester Linings for Calcium,
Ammonia, Soda and Magnesia Base
Combustion Chamber, Acid Tower,
and Settling Tank Linings
Acid Storage Tanks

KRAFT OR SEMI-CHEMICAL

Combustion Chamber and Absorption
Tower Linings
Digester Linings
Bleach Plant Tanks and Linings
Pulp Storage Chests

PAPER MILL

Special Process Chests
Stock Storage Chests
Wire and Couch Pit Linings

CHEMICAL PLANT

Acid and Alkali Storage Tanks
Pickling Tanks
Tower Linings and Packing

AUTHORIZED APPLICATORS FOR SARAN RUBBER & TYGON LININGS

SINCE 1884
Specialists in
Design
Installation
and Servicing
of Linings and
Tile Tanks

STEBBINS

Engineering and Manufacturing Company, Watertown, N. Y.

STEBBINS ENGINEERING CORP. — TEXTILE TOWER, SEATTLE, WASH.
CANADIAN STEBBINS ENGR. & MFG. CO., LTD. — CASTLE BLDG., MONTREAL, CANADA



U. OF MAINE PROGRAM

WHAT THE FOUNDATION HAS ACCOMPLISHED

With completion of requirements by the first group of men to hold scholarships under the University of Maine Pulp and Paper Foundation's program, and the movement of these men into industry, it is an opportune time to take a look at this unique organization which was formalized in Feb. 1950, during Paper Week in New York City.

Of first importance is the apparent fact of the acceptance by the industry of men trained under the program. Most of the men had been offered and accepted employment before completion of their requirements, and all (except two who were called into military service) are now in the employ of the industry or will be by June. These men and their companies are:

James E. Ayer—West Virginia Pulp and Paper Co.; Frank A. Butler—Paper Division, Eastman Kodak Co., and military service; Dwight Frye—Union Bag and Paper Corp.; John McClure—S. D. Warren Co.; Robert Perry—Scott Paper Co.; Roy Webber—military service; Robert Zabe—Champion Paper and Fibre Co.; Eugene Cunningham—Scott Paper Co., and Donald MacKinnon—Oxford Paper Co.

Boiled down to its essentials, objectives of the Foundation are to interest students in selecting pulp and paper training at school and choosing the industry as a career on graduation. This means inducements in the way of scholarships to outstanding men, and a curriculum that will provide training for useful performance in industry.

Far from being an experiment, the Pulp and Paper Foundation at Maine is, however, a "first" in the country. So its experience in relation to scholarship base is of particular interest. Originally scholarships were planned to include only students taking the five-year operational management course on pulp and paper in the school of chemical engineering. The study under the five-year program includes courses in accounting, labor problems, corporation finance, personnel management and business law—all of which were deemed essential to men being



TYPICAL OF EXECUTIVES supporting specialized university training for pulp and paper field is this group which attended open house under auspices of Pulp and Paper Foundation at University of Maine. They are (l to r): T. C. NIXON, General Manager, Mohawk Paper Mills Inc.; M. D. McDONALD, President, Great Northern Paper Co.; C. G. PAINE, Vice President, Eastern Corp.; HAROLD HOLDEN, Presi-

dent, Eastern Corp.; ROY WELDON, Vice President Engineering, Great Northern Paper Co.; C. E. CARRIER, Vice President and Manager of Manufacturing, Great Northern Paper Co.; W. E. PARSONS, President, Keyes Fibre Co.; WM. HILTON, Vice President, Great Northern Paper Co.; and J. E. McLEOD, Assistant Manager of Manufacturing, Great Northern Paper Co.



WORK OF MAINE FOUNDATION is supported by classified memberships. Here F. A. Juckett, (right) of Sandy Hill Iron & Brass Works, presents \$1000 check to P. H. Britton, of Robert Gair Co., for membership of his company in Foundation. There are 22 company and 15 special gifts members listed in 1952 roster.

trained for responsible positions in the management of pulp and paper manufacturing operations.

Although well satisfied with this five-year program, the members of the Foundation have decided that the trained manpower requirements of the industry are such that the scholarship base should be

broadened to provide for granting of tuition scholarships to qualified junior and senior engineering and forestry students.

The present Foundation scholarship base which went into effect late in 1952, therefore, includes the entire college of technology and forestry at Maine. So that qualified four-year students may now receive grants in their third or fourth years upon signifying intention to enter the pulp and paper industry after graduation, and the five-year students can receive grants in any or all of the last three years of their studies.

Under the widened scope of operation three mechanical engineers at Maine have already picked pulp and paper as their industry and have been given scholarships. These, of course, are four-year students and are in addition to those being trained under the earlier five-year program.

Supporters of the Foundation believe this expanded program will enable them to compete successfully with other industries for trained technologists from the school.

How is the Foundation program fi-

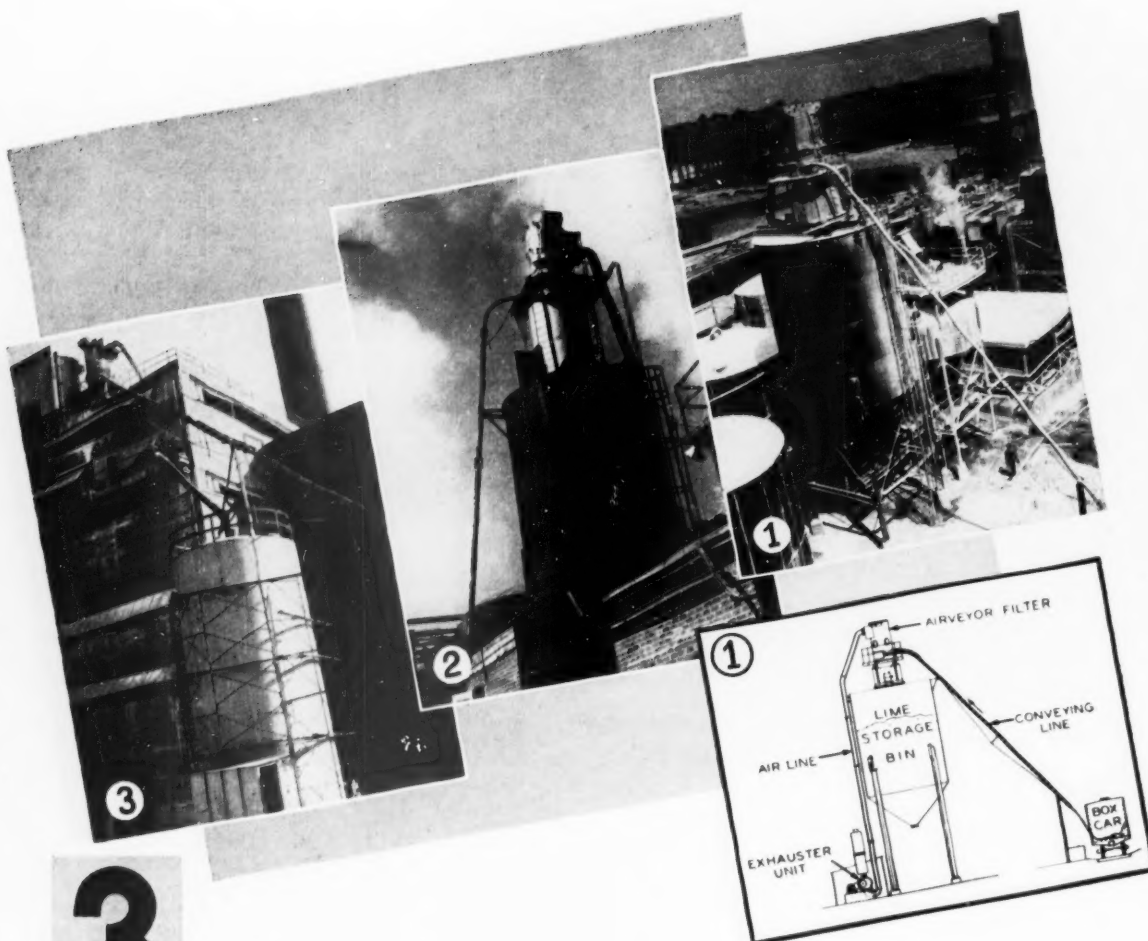
(Continued on page 106)

FIRST MEN TO COMPLETE THE REQUIREMENTS at the University of Maine under the scholarship program sponsored by the Maine Pulp and Paper Foundation are shown here exclusively by PULP & PAPER. These men, and the companies they have

joined, are (l to r): ROBERT ZABE, Champion Paper & Fibre Co.; ROBERT PERRY, Scott Paper Co.; ROY WEBBER, has entered U. S. military service; JAMES B. AYER, West Virginia Pulp and Paper Co.; DWIGHT D. FRYE, Union Bag and Paper Corp.; EU-

GENE CUNNINGHAM, Scott Paper Co.; FRANK A. BUTLER, Paper Division of Eastman Kodak Co. (has recently received order to report for active military service); DONALD MACKINNON, Oxford Paper Co., and JOHN MCCLURE, S. D. Warren Co.





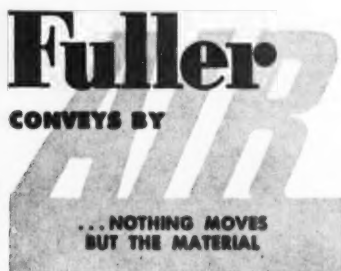
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AIRVEYOR[®]

SYSTEMS

work for RIEGEL-CAROLINA

When the new 200-ton pulp mill of the Riegel-Carolina Corporation, Acme, North Carolina, was designed and built, they selected and installed Airveyors for handling mill-supply chemicals.



A-165
1943

DRY MATERIAL CONVEYING SYSTEMS AND COOLERS . . . COMPRESSORS AND VACUUM PUMPS . . . FEEDERS AND ASSOCIATED EQUIPMENT

3 Airveyors are in use:

- 1 Unloading pebble lime to storage for use in the caustic plant. Unloading rate 10 tons an hour.
- 2 Unloading pebble lime and soda ash to storage for use in the bleach liquor making plant. Capacity 7½ tons an hour.
- 3 Unloading salt cake to storage, reclaiming from storage for delivery to mix tank in the Kraft mill recovery building. Handles 7½ tons an hour.

Many important pulp and paper mills throughout the country are finding new savings with Fuller Airveyor systems for the handling of raw paper-making materials. Each installation is custom-built to meet specific requirements, determined, after careful study, by Fuller engineers, with years of experience in the field of pneumatic conveying. Fuller engineers are at your service, to offer their advice, without any obligation. It could be a means of finding new cost savings in your materials-handling operations.

FULLER COMPANY, Catasauqua, Pa.

Branch offices

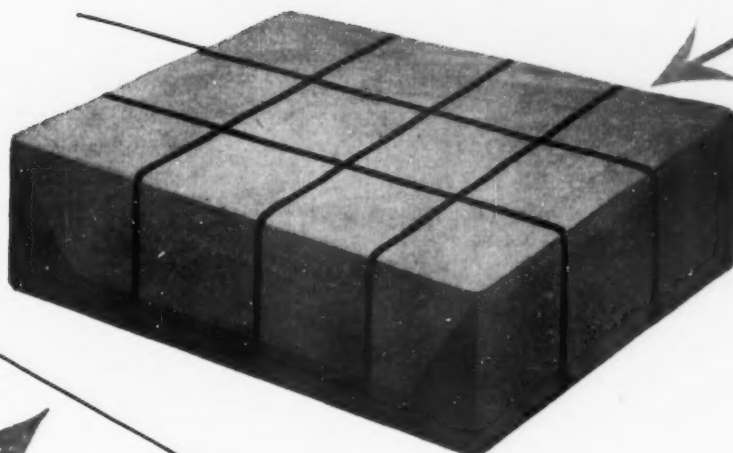
Chicago—San Francisco—Los Angeles—Seattle—Birmingham

Lyddon & Co.

exporters of wood pulp
to all world markets

Parsons & Whittemore

paper exporters
wood pulp



London
Paris Zurich
Stockholm Oslo
Sousse Montreal
Buenos Aires Sao Paulo

250 Park Avenue, New York 17, N. Y.

nanced? Through five types of membership which encompass most realms of activity in the pulp and paper field. Memberships include: (1) Four scholarship underwriters; (2) 22 company members; (3) 15 special gifts members; (4) 130 individual members; and (5) ten junior members. Scholarship underwriters subscribe a minimum of \$2500 per year and one has presented the Foundation with \$5000. Company members provide a minimum of \$1000 and individual memberships are set at a minimum of \$10.

The Maine Foundation is also sponsoring a research program, and three projects have been approved for research and money has been authorized for carrying them out. One project is the measurement of surface area by dye absorption; and the other is recovery of ammonia from base waste sulfite liquor. A third project is of an exploratory nature and involves studies on the measurement of impact tensile strength. A total of \$3000 has been

authorized for research expenditure to date and of this \$2400 has so far been allocated.

Maine-Syracuse Luncheon Set For Paper Week

Maine and Syracuse alumni in this industry are getting together for a luncheon in the Hendrick Hudson room, Roosevelt Hotel, Feb. 18 at 12:15 p.m. (during Paper Week). Honor guest is Prof. C. E. Libby, head of the paper department at North Carolina State College who was head of the Syracuse school many years. The U. of Maine award for service to the industry also will be made.

Adds to Laboratory

At International Falls, Minn., Minnesota and Ontario Paper Co. is stepping up its testing and control facilities with a three-story addition to its central control laboratory at its International Falls mill.

New Equipment Said To Save Wires and Felts

Messrs. W. P. Evans & Sons, Ltd., inventors and makers of the patented Rotabelt Suction Unit, have acquired a factory site in Nashua, New Hampshire, and were expected to start making the unit in January for mill in North America.

The manager of the Nashua plant is William Austen Barrett, who was works manager of the main factory at Clifton, near Manchester, England. He was accompanied to Nashua by J. W. Weston-Evans, chairman and governing director of the Evans firm. Mr. Barrett was formerly with Walmsleys Ltd. and New Bury Paper Mills as engineer before joining Evans in 1948.

This Rotabelt Type Suction Unit is designed to overcome rubbing and wearing of wires and felts over tops of vacuum boxes. The unit consists of three separate suction compartments in a single casting, each individually controlled, and over the top passes a perforated endless rubber belt supported by two conveyor rolls mounted on ball bearings. Wire or felt, carried on top the belt, rotates it without slip. Inner surface of belt slides over ported stainless steel facings, the ports coinciding with belt perforations. W. P. Evans of Manchester invented the rotary suction devise.

Big Newsprint Demand Increase Seen in West

Consumption and production of newsprint in western region United States and Canada is expected to rise more than one-third above the present rate within the next decade, according to a study published by Stanford Research Institute. Sponsors were many western newspapers and Powell River Co., Crown Zellerbach, Publishers' Paper Co. and Inland Empire Paper Co.

By 1961 Western users will require 35 percent more than presently, as contrasted with an 18 percent rise in national consumption, the report estimates.

The study, titled "The Newsprint Situation in the Western Region of North America," has been brought out in a 115-page book. (\$10—from Project 464, Stanford Research Institute, Palo Alto, Calif.).

Scott Mill Construction Begins at Everett, Wash.

Bulkhead construction and test piling were under way in January for the new big tissue mill of Scott Paper Co., which will rise on ground just north of its Soundview Pulp Division in Everett, Wash., and delivery of the big speed Beloit Fourdrinier Yankee machine is scheduled for August, installation to be completed shortly thereafter.

New St. Regis Plant

St. Regis Paper Co. has selected a 15 acre property at East Providence, Rhode Island, for a new Engineering and Machine Division.

The new \$1,500,000 plant, which will replace the one at Oswego, New York, is to be ready by the middle of next year.

The Engineering and Machine Division designs and builds a wide range of multiwall bag filling equipment and scales and bag making machines. It also maintains a staff of specialists for research and design of new equipment.



Self Cleaning — Non-Clogging —
Easy Operation—Removable Clean-
out — Full Port Area — All Parts
Interchangeable — Conforms with
American Standards for Face to
Face Dimensions of Ferrous flange
valves.

To Mills using
SMITH VALVES

As one of the original licensees of Smith Valves, we have purchased all drawings and patterns and are in a position to furnish mills with Valves and replacement parts. Write factory for complete details and delivery.

Western
MACHINERY CORPORATION

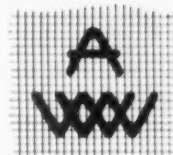
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PARTICIPANTS IN THE PROGRESS OF PAPER-MAKING



Chemicals . . . produced by an industry which has made magnificent contributions to paper-making progress through applied research.

Fourdrinier Wires . . . fabricated for 56 years by Appleton Wire Works, Inc., where continuous research — directed toward making a better product—has *earned* the acknowledgment that "*Appleton Wires are Good Wires!*"



APPLETON WIRE WORKS, INCORPORATED • APPLETON, WISCONSIN

February 1953

107

BETTER DRAINAGE

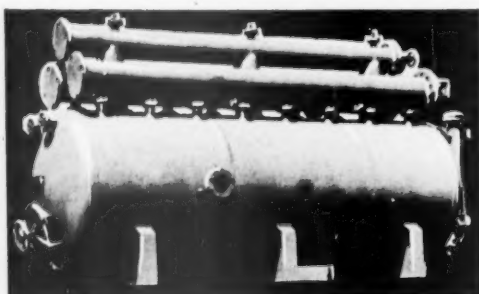


**EASIER
DRYING**

WITH THE

DECULATOR

Easier drying brings several production advantages which alone are enough to justify the Deculator. But there are many other benefits now being enjoyed by present users. May we tell you the full story?



THE ROTAREAD CORP. REPRESENTED BY



CLARK & VICARIO CO.

BRONXVILLE 8, NEW YORK



CANADIAN NOTES

JAMES HILL (JIMMY) LAWSON, Q.C., legal advisor to British Columbia's major pulp and paper producers, Powell River Co. and Pacific Mills, Ltd., has retired from the secretaryship of Pacific Mills and from legal practice in Vancouver, B.C. He continues, however, as a director. Since 1910 he has specialized in corporation law affecting logging, lumbering, pulp and paper.

R. S. BOTHAM, superintendent of pulpwood purchase for Ontario Paper Co. at Thorold, Ont., has resigned, and his successor is **ROBERT D. PRINCE**, formerly assistant woods manager at Quebec North Shore Paper Co., Baie Comeau, Que.

JAMES T. JESSOP has retired as superintendent of mechanical maintenance at the Edmundston, N.B., mill of the Fraser Companies after 35 years' service.

ARCHIE W. DELAND, 41 years with Powell River Co., retired at the beginning of the year as president of Kingcome Navigation Co.,

Powell River towboat subsidiary. Mr. Deland grew up with the Powell River Co., starting his career in 1911 as an apprentice with the logging division. In 1926 he became manager of the logging department.

E. NORVAL HUNTER, who for several years has been vice president in charge of finance and operations, KVP Co. at Espanola, Ont., has been named president of Appleford Paper Products.

IAN A. BARCLAY, Montreal, assistant secretary of Canadian Chemical & Cellulose Co. of Canada, accompanied President **MAXWELL MACKENZIE** to the coast recently, making his first visit to Castlegar, where the company plans an integrated forest industry.

PAUL E. ROBERTS, who has been manager of new development for Abitibi Power & Paper Co. in Toronto, Ont., has been appointed to the new post of general manager, Alaska Pine & Cellulose Ltd., at Vancouver, B.C., and will take over many duties formerly performed by former president **LEON KOERNER**, whose younger brother, **WALTER KOERNER**, steps up to the presidency. Mr. Roberts, born in West Virginia, was with U.S. Gypsum Co. before joining Abitibi, the big eastern Canadian company which last year became affiliated with Alaska Pine in purchase of B.C. Pulp & Paper Co. **LES CLEMINSON** continues as manager of the pulp division, Alaska Pine & Cellulose. **MARC ROLLAND** and **ROY H. ECCLESTONE**

have been named vice presidents of Rolland Paper Co., Que., of which they are works manager and director of sales, respectively.

GEORGE H. TOMLINSON II, research director for Howard Smith Paper Mills, Toronto, and son of **Dr. GEORGE TOMLINSON**, outstanding Canadian authority on pulp development, attended the FAO conference on pulp and paper in Rome.

H. E. CUNNINGHAM, vice president and manager of the paper division, Dominion Engineering Co., Lachine, Que., is to address the Ottawa valley section CPPA Feb. 11 at Cornwall, Ont. **F. G. ROBINSON**, president of Riordan Sales Corp., subsidiary of Canadian International Paper Co., Montreal, has retired after 32 years with the company and has been succeeded by **C. E. F. JONES**. **FRANK J. McPHEE** has been named secretary of Riordan, which is the worldwide selling agency for dissolving wood cellulose produced by C.I.P.

WILLIAM S. KIDD, president and managing director of the E. B. Eddy Co. at Hull, Que., since 1948, has retired, to be succeeded by **R. A. ROBERTSON**, president and managing director of George Weston, Ltd., the parent organization headed by **GARFIELD WESTON**, chairman of the Eddy board. Mr. Kidd, who continues as a director, is also president of Eddy Paper Co. and J. R. Booth Ltd.

P. R. SANDWELL, head of Sandwell & Co., consulting engineers of Vancouver, B.C., was chosen to deliver the first Stadler Memorial address to the Canadian Pulp & Paper Association in Montreal late in January. The memorial honors the late **JOHN STADLER**, consulting engineer who founded Stadler, Hurter & Co.

M. J. FOLEY, executive vice president of Powell River Co., Vancouver, B.C., left late in January for a tour around the world on a survey of business and industrial conditions. He spent Christmas in Honolulu with his brother **HAROLD S. FOLEY**, president of the company, then proceeded to Australasia, Hongkong and Singapore.

LUCIEN G. ROLLAND, formerly vice president and general manager of Rolland Paper Co. has been made president of the company, succeeding the late **J. PIERRE ROLLAND**.

MARC ROLLAND has been appointed vice president and manager of mills, with **ROY H. ECCLESTONE** vice president and sales director. **ALBERT ROLLAND**, another member of the family, has joined the board. Lucien Rolland's great grandfather Jean Baptiste Rolland built Canada's first fine paper mill at St. Jerome.

ROBERT W. MAYHEW, founder and president of Sidney Roofing & Paper Co., Victoria, and until recently Canada's minister of fisheries, has been appointed Canada's first postwar ambassador to Japan.

P. M. FOX, president of St. Lawrence Corp., Montreal, has joined the board of the Great Lakes Paper Co., Toronto, whose mills are at Fort William, Ont.

JOHN TRUSCOTT, production superintendent of Kimberly-Clark Corp. at Kapuskasing, Ont., recently completed his 25th year with the company. Not long ago he went to the United Kingdom on loan to assist in the start-up of a crepe wadding machine for Reed Paper Co.

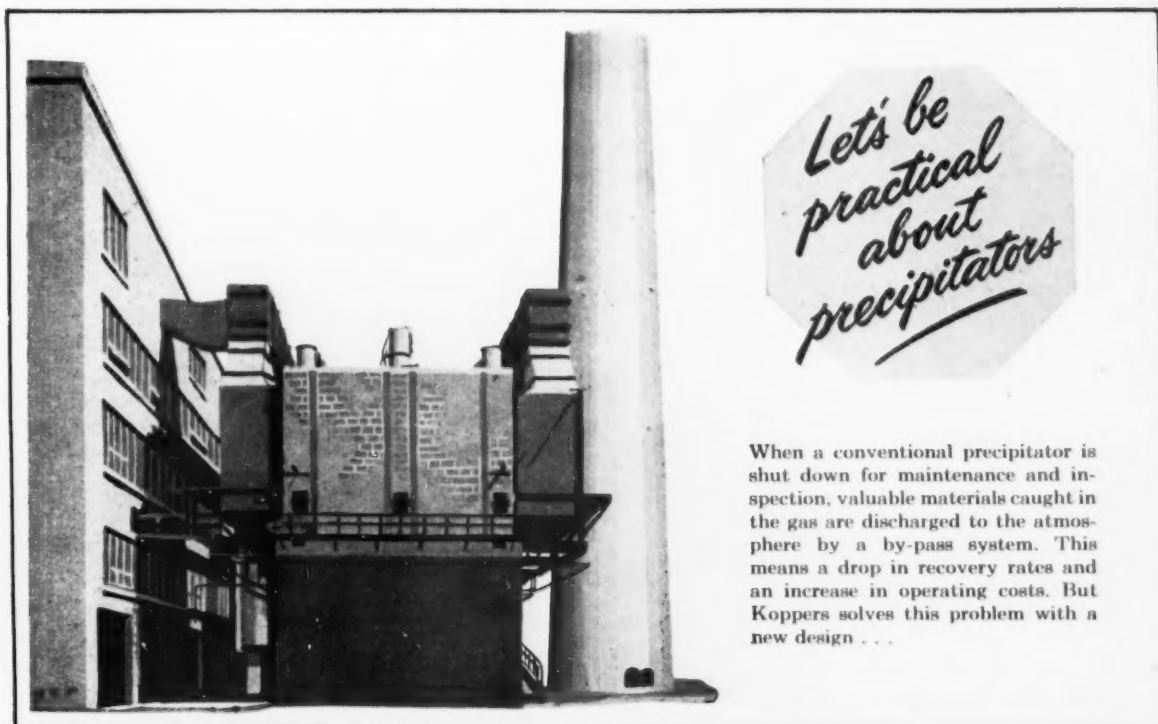
GEORGE BARBER, vice president in charge of finance for Spruce Falls Power & Paper Co., has retired after 26 years of service with the company. Until recently he was secretary-treasurer.

J. ANGUS OGILVY is a new director of Canadian International Paper Co. at Montreal, replacing the late **GEORGE H. MONTGOMERY**.

RON GOURLAY, formerly comptroller of Pacific Mills Ltd. at Vancouver, B.C., head office, has been appointed assistant to the president, **PAUL E. COOPER**.

New Wet-Strength Bag

Bags made from three layers of wet-strength paper with perforations to act as drains are being used in the packaging of iced sweet corn. Fifty-three ears of corn in each bag are kept fresh from farm to market by 20 pounds of ice.



When a conventional precipitator is shut down for maintenance and inspection, valuable materials caught in the gas are discharged to the atmosphere by a by-pass system. This means a drop in recovery rates and an increase in operating costs. But Koppers solves this problem with a new design . . .

Koppers-Elex electrostatic precipitators assure maximum recovery with an efficient double-chamber design!

KOPPERS-ELEX electrostatic precipitators save you money two ways on recovery boiler applications. The first way is with maximum recovery. Successive collection zones can be separately energized which means higher voltages can be applied—with an increase in efficiency as a result.

The second method is with Koppers double-chamber design. Instead of conventional by-pass systems, the dirty gas can be diverted through a single chamber while the other is shut down for inspection and maintenance. This means recovery continues with only a slight decrease in efficiency. As a result operating costs go down and recovery rates stay up.

PERFORMANCE GUARANTEED!

Koppers engineers protect your investment in an electrostatic precipitator by guaranteeing both the recovery or gas-cleaning efficiency and the residual content left in the gas after cleaning. Koppers-Elex electrostatic precipitators are designed, engineered, fabricated, erected and guaranteed under one contract by Koppers Company, Inc.

In addition, operation is simplified by Koppers exclusive bottom drag scraper which does away with conventional hoppers. Dust is removed continuously—an important point where chemicals are to be re-used. Another feature is completely "packaged" mechanical or vacuum tube power packs which can be located in any convenient area in the plant.

IF YOU HAVE A GAS-CLEANING PROBLEM, write today and outline the details for us to review. There is no obligation. Just address your letter to: KOPPERS COMPANY, INC., *Precipitator Department*, 242 Scott Street, Baltimore 3, Maryland.



Koppers-Elex **ELECTROSTATIC PRECIPITATORS**

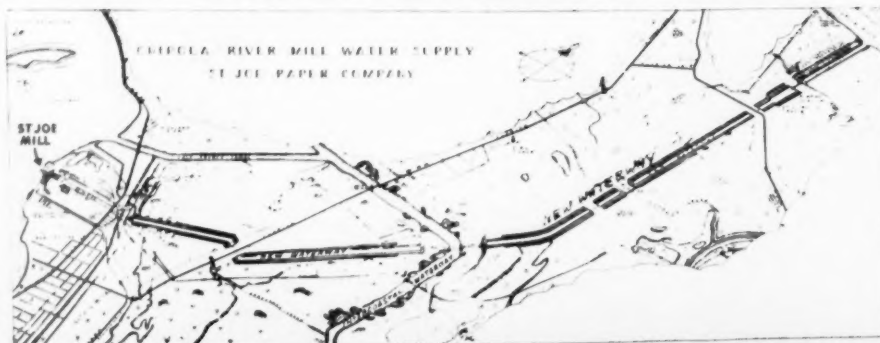
HOW ST. JOE SOLVED A WATER PROBLEM IN SOUTH

Bringing of water from Chipola River and Cypress Creek, a distance of 18½ miles, by means of an open canal with siphons underneath intervening obstacles, will be effected by St. Joe Paper Co., Port St. Joe, Fla., to provide 30 million gallons daily for its expanded mill.

The man-made waterway will start with an open section leading from the Chipola River, the minimum flow of which has never gone below 450 second feet. At the end of the opening basis, with screens to bar trash and fish, will be a pumping plant equipped with two 13,500 GMP pumps driven by 100 HP motors. Hydrostatic head here will be 25 feet. An open canal will extend to Cypress Creek, accepting surface drainage en route. The maximum water taken from Chipola River will be 46 second feet, with actual pumping not over 30 second feet most of the time. An additional 10 million gallons may be picked up at Cypress Creek, including the surface drainage, but this will be under strict control. The canal itself will be carried by a 48 inch diameter siphon. Other points to be siphoned include Fla. Route 381, a county road, Fla. Route #7, and the Intracoastal (U.S.) Canal, a large inland waterway route extending from the Rio Grande River, in Texas, to east Florida.

No surface drainage will be accepted after passing Cypress Creek to avoid possible brackish water. The canal section from the Intracoastal Canal to Port St. Joe city limits will be large enough to serve as a reservoir and settling basin, holding a full day's supply for the mill. From here a pumping station with two 13,500 GPM pumps of 55 foot head and 200 HP motors will supply the mill through a 42-inch underground pipe.

NICHOLS ENGINEERING & RESEARCH CORP., New York, announces coming introduction of new methods for conditioning paper making stocks, involving improved dirt, gas removal. Methods employed are research development of Consolidated Paper Corp., Ltd., to be described in a paper to the Technical Section of the Canadian Association at Montreal, in January.



VIEW OF 18½ MILE CANAL under construction in Florida to bring new water supply to St. Joe Paper Co., to service its expanding operations.

OLIVER UNITED FILTERS, New York, Chicago and Oakland, manufacturers of filters, pumps, pulp screens, and other equipment for industrial and process plants with world-wide sales, manufacturing and service facilities, announces appointment of Dwight Richards as director of engineering.

FOXBORO CO., Foxboro, Mass., has issued a Bulletin 447 containing complete details of temperature recorder construction, showing how each component part, from bulb to chart, contributes to recorder accuracy.

MORRIS MACHINE WORKS, Baldwinville, N.Y., has appointed W. M. MERCER, sales manager. Mr. Mercer, an alumnus of University of Michigan, joined the company in 1936. Two years later, he left Morris for other activities but returned in 1949, as a member of the sales department.

SOUTHWESTERN ENGINEERING CO. has issued a colorful new 8-page bulletin dealing with the SWECO Separator—a major new change in production screening and separation. This versatile mechanism for wet or dry screening—from 20 to 325 mesh screens is described and may be obtained by writing Separator Division, Southwestern Engineering Co., 4800 Santa Fe Avenue, Los Angeles 58.

CANADIAN SUMNER IRON WORKS has completed 40 years of continual progress and expansion and to mark the event has issued a booklet describing its products and activities, available on request by writing 3550 East Broadway, Vancouver, Canada.



IMPORTANCE OF LONG-RANGE PLANNING IN RESEARCH in the pulp and paper industry is now widely recognized. Here is an interesting on-the-spot picture of the research "General Staff" of Champion Paper & Fibre Co. in action at one of its regular meetings in Hamilton, Ohio. Left to right:

ED KNAPP, Assistant Director of General Research; W. J. (Monty) MONTGOMERY, Director of General Research; HERBERT RANDALL, Vice President and Director of Research and Engineering; and PHALTI LAWRENCE, Director of Pulp and By-Products Research.

News and Notes from

EQUIPMENT AND SUPPLY COMPANIES



LEFT TO RIGHT: CARROLL H. MULLEN and KARL S. SNELL, continuously employed for 25 years by Downingtown Mfg. Co., are shown receiving awards from ENRIGHT ELLIS, President and Treasurer of Downingtown Mfg. Co., Downingtown, Pa. Award recipients were introduced by U. GRANT LEFEVRE, Assistant to the Treasurer. Over 120 attended a dinner where 43 received awards for 10 years or more service.

PACIFIC-WESTERN GEAR WORKS announces a new 35 page catalog on Pacific-Western Right-Angle speed reducers, spiral bevel and helical gear types. The new catalog has information to assist the customer in selecting the proper speed reducer for any job. Copies of Bulletin No. 5203 can be obtained from Western Gear Works, 417 Ninth Ave., Seattle, Wash., or from nearest Western Gear representative.

ELECTRIC STEEL FOUNDRY CO. recently opened Plant No. 3 on N.W. Yeon Ave., in Portland, Ore., having purchased plant and properties of Shofner Iron & Steel Co. This new plant is now home of the Logging Rigging & Wire Rope Division manned by Bob MacDonald and his staff.

BUILDERS-PROVIDENCE, INC. has a new bulletin on the Saran-Lined Venturi Nozzle. The Model NZSL is a flanged type differential producer without piezometer rings, designed for corrosive liquids and slurry service. For bulletin 130-J6 write Builders-Providence, Inc., 345 Harris Ave., Providence 1, R.I.

RELANCE ELECTRIC & ENGINEERING CO., 1088 Ivanhoe Rd., Cleveland 10, O., announces shipments of \$38,564,437 or an increase of better than \$5,000,000 over the previous high set a year ago in a report to shareholders and employees for the fiscal year ended Oct. 31, 1952. The company's net worth also reached a new high, increasing by \$1,399,714 to \$11,474,306. J. W. Corey, president, said. Net earnings for the year, after taxes, were \$1,816,140, or \$4.09 per share on 443,679 shares outstanding on Oct. 31.

ALLIS-CHALMERS releases bulletin showing construction features of their supporting-adaptor type, close-coupled general purpose pump in capacities to 2500 gpm at heads to 550 feet. Alternate sealing arrangements available are diagrammed and a table of dimensions is given. Copies of Allis-Chalmers Close

Coupled Pumps, 52B6083A, are available on request from Allis-Chalmers Manufacturing Co., 995 S. 70th St., Milwaukee, Wis.

MINNEAPOLIS-HONEYWELL REGULATOR CO., Philadelphia, Industrial Division, has developed a faster, safer instrument servicing of strip chart Tel-O-Set recorders made possible by adoption of a new automatic motor cut-out mercury switch. Through utilization of the new "quick-disconnect" switch the live power line to the chart motor of the recorder is instantly and automatically deenergized when the chassis is withdrawn beyond the safety catch. The new switch is currently available as special optional equipment and is now in production as a standard product.

R. M. WADE CO., representative of **GOULDS PUMPS**, announces the opening of a new sales and service plant at NW 19th & Thurman, Portland, Ore.

CRANE CO., 836 S. Michigan Ave., Chicago, announces new line of venturi ball valves. The disc in these Crane-Paul valves, instead of being of conventional shape, is a ball. This ball is not attached directly to the stem, but rides in a cage which is attached to the stem by a tee-head slotted construction. The new valves are available in venturi patterns, with flanged ends, in cast carbon steel and Crane 18-8 Mo alloy steel, and in a wide range of sizes beginning at 1-inch. Cast steel valves are available in 150, 300, and 600-pound classes, and alloy valves in 150 and 300-pound classes.

NATIONAL ANILINE DIVISION of Allied Chemical and Dye Corp., has issued a fascinating booklet "The Aniline Story." This brochure gives the history of what was man's first commercial synthetic organic chemical and describes its many

LOUIS ALLIS PROMOTIONS



LOUIS ALLIS JR. (left), former Vice Pres. in charge of Sales, has been elected a Vice Pres. and joins his brother, Vice Pres. John W. Allis, in overall active management of company operations. He has been with the company 14 years except for Army service and with the WPB and is a Director.

C. G. SKIDMORE (right), former Sales Manager, has been elected Vice Pres. in charge of Sales. He also will serve as Gen. Sales Mgr. He has been with the company 6 years and was a Navy Officer and with WPB in World War II.

ALLIS CHALMERS PROMOTIONS



J. D. GREENSWARD (left), promoted recently to Vice Pres. and Director of Manufacturing, General Machinery Division, Allis Chalmers Mfg. Co. He headed the Norwood, Cincinnati, Works and a few years ago met many delegates to this industry's Engineering Conference when it was held in Cincinnati. He is succeeded at Norwood by **F. P. BAUER** (right), new Gen. Mgr. of Norwood Works and Mgr. of Apparatus Dept., Allis-Chalmers.

present uses and future possibilities. Initially responsible for unlocking the door to our vast synthetic dye industry, aniline has also become an important raw material in photographic film, special papers, etc.

SEMET-SOLVAY DIVISION, Allied Chemical & Dye Corp., is producing on a small plant scale at Buffalo, N.Y., a new material derived from ethylene, called Alcowax. A full-scale petrochemical plant is under construction at Buffalo for the production of this material some time in 1953. Unlike most other polymers of this type the present grade of Alcowax has wax-like hardness and a melting point of approximately 100° C. Suggested uses include coating for paper, lining metal containers, ingredient in printing ink, etc. Sales and inquiries will be handled by Petrochemical Sales, located at 40 Rector St., New York 6, N.Y.

FOOD MACHINERY AND CHEMICAL CORP., has elected Joseph B. Cary chairman of the executive committee. He will share with president Paul L. Davies, responsibility for overall corporate activities. Ernest Hart, formerly a vice president of F.M.C. and president of its Niagara Chemical Division was elected an executive vice president of the corporation and will be responsible for supervising and coordinating the operations of all F.M.C. chemical divisions.

REICHOLD CHEMICALS, INC., has announced appointments of Archie H. Dean as sales manager of its newly-formed specialty products division and Donald G. Patterson as technical assistant on resins and plastics. Prior to joining Reichold, Mr. Dean was director of sales for the Barrett Division, Allied Chemical & Dye Corp. For the past 15 years, Mr. Patterson was in charge of plastics development at the research laboratories of American Cyanamid Co., Stamford, Conn.



around the clock

CHEMI-PULPER®

continuous digester

More and more mills using CHEMI-PULPER continuous digesters for their around-the-clock pulp mill operation report the continuous production of uniform, high grade pulp at the lowest possible cost.

Recent installations are equipped with the new Pandia Discharger which continuously and uniformly discharges pulp at a constant rate from the CHEMI-PULPER continuous digester to the atmosphere.

CHEMI-PULPER continuous digesters are being used universally to convert hard or soft woods or mixtures of these woods into superior pulps for insulating board, flooring, roofing and automotive felts, and .009 corrugating and other types of boards and papers.

One of Pandia's engineers will be glad to consult with you concerning plans for new plant construction or for improving present pulp mill operation.

Write for Bulletin C2.

Manufactured and Sold in Canada by
THE ALEXANDER FLECK LIMITED, OTTAWA, CANADA.



PANDIA

PANDIA INC.

122 EAST 42nd STREET • NEW YORK 17, N. Y.

Personals

PACIFIC COAST NOTES

CHARLES DICKEY has been appointed West Coast procurement manager for Scott Paper Co., headquarters at the Soundview Pulp Division, Everett, Wash. Presently Mr. Dickey is working under Paul Baldwin, assistant vice president, in handling procurement of equipment and materials for the new tissue mill but eventually will be directing purchases and procurement for all three West Coast mills.

REED O. HUNT, vice president-manufacturing, Crown Zellerbach Corp., San Francisco, addressed the 25-Year Club dinner recently in Martin Inn, Ocean Falls, C.B., for Pacific Mills. The club added 27 members and now has 40. **PETE SINCLAIR**, assistant v.p., also from San Francisco, recently visited Northwest

mills including his old mill at Port Townsend, Wash.

ROY SHANAMAN, on loan to NPA as chief of inorganic chemicals section for the past six months, resumed his duties as manager of heavy chemical sales for Pennsylvania Salt Mfg. Co., of Washington, Portland, Ore. in late November.

RAYMOND E. BAKER, manager of Weyerhaeuser Timber Co.'s Longview pulp division, has begun a three-month tour of duty in the firm's executive offices in Tacoma.

E. N. WENNBERG, superintendent of paperboard production, will be in charge of the Longview pulp division during Baker's absence.

C. R. P. (DICK) CASH, manager of the newest of the Fibreboard Divisions, San Joaquin, at East Antioch, Calif., and **HOWARD S. GARDNER**, Fibreboard research, from Antioch, made a recent trip into the South, attending the Mobile Alkaline Pulping meeting. **PETER M. WILKIE** of Crown Zellerbach, also attended.

E. A. "MIKE" PAUL, industrial and community relations supervisor, Crown Z,

Camas, Wash., has been named general personnel supervisor of entire corporation succeeding **WILLIAM HART**, in San Francisco offices, who becomes secretary to the newly formed executive development committee. **H. F. CARPENTER**, formerly assistant resident manager of CZ Port Angeles division, succeeds Mr. Paul at Camas.

GUS OSTENSON, manager of paper production, Crown Z, Camas, Wash., recently attended his third special management course in New York City sponsored by the American Management Assn.

T. J. KEPNER, 45, personnel, safety and labor relations supervisor of Crown Zellerbach Corp. logging divisions of Columbia river area, died of heart attack at his Portland, Ore. home Dec. 13.

RALPH MATILE, beater room superintendent, CZ, West Linn, Ore., has retired at the age of 65 with nearly 29 years with the firm. **FRED MAFFEI** has been promoted to fill the vacancy.

JOHN GALEN, CZ, West Linn training director, has been elected '53 president of Oregon State Society of Training Directors.

VINCENT N. DEFELICE, graduate of the Institute of Paper Chemistry, who joined Publishers' Paper Co. last spring at Oregon City, Ore., was promoted to assistant chief chemist Jan. 1, succeeding **JAMES DYKSTRA** who has affiliated with The Flox Co., Inc.

GEORGE I. ADAMS of the Fibreboard Products Inc., Port Angeles Division, was recently awarded a 30-Year Service Pin at the annual Service Pin dinner.

GLENN R. SPICER, of Hammermill Paper Co., Erie, Pa., has been appointed manager of Hammermill Western sales territory. Mr. Spicer joined Hammermill in 1928. He was transferred to the Hammermill San Francisco office, 311 California St., San Francisco 4, April 1952. Concurrent with Mr. Spicer's appointment as district sales manager, is the retirement of **B. P. "DOC" JAGGARD**.

WILLIAM S. PATTON, of Hammermill Paper Co., Erie, Pa., has been appointed sales manager of the Grays Harbor Pulp and Paper Co., Hoquiam, Wash. Joining Hammermill in 1950, Mr. Patton was named sales representative for the mill's Eastern sales territory and was transferred to the Grays Harbor Pulp and Paper Co., last August.

J. B. GRANTHAM has been named managing director of Oregon Forest Products Laboratory, Corvallis, Ore. Since 1951 Mr. Grantham has been chief of physical research and development division of the lab and head of forest products department of Oregon State College school of forestry. **L. D. ESPENAS** was promoted to chief of research and development division.

D. J. WOLLAM, chief engineer in the steam and power dept., Crown Zellerbach Corp., Port Townsend, Wash., since the plant started in 1928, has retired. Mr. Wollam had 40 years in the West Coast industry. **ELIHU SMITH**, formerly assistant chief engineer, was promoted to chief engineer. **HARRY B. PORTER**, formerly technical assistant to the chief en-

gineer, was promoted to assistant chief engineer. **WILLIAM H. MAXWELL**, formerly assistant supt., of the multiwall and grocery bag dept., was transferred to the new San Leandro, Calif., converting plant where he will supervise multiwall operations. **A. W. WETMORE**, formerly night shift supervisor at the Port Townsend multiwall plant, was promoted to assistant superintendent, replacing Mr. Maxwell.

HY RAMMER, for many years chemist of Fibreboard, Stockton, Calif., has been appointed technical director for all Fibreboard plants. Mr. Rammer, a native Bostonian, started with the company on January 29, 1923. **ALBERT SAFINE** succeeds Mr. Rammer as head chemist at Stockton. **SIX CROWN Z WEST LINN, ORE.** employees received 40-year pins at a recent service pin dinner. Vice Pres. R. O. Hunt participated as speaker of the evening and awarded 5 to 40-year pins to 141 men and women. Malcolm J. Otis, resident manager, welcomed the group and W. D. Welsh, director of public relations, presided as toastmaster. Forty-year pin receivers were Mervin M. Califf, Godfrey E. Ekerson, Arthur L. Larson, Ewald Quade, Ed G. Roth, Rolland H. Woodward.

W. J. F. (BUCK) FRANCIS, formerly with Penn Salt, Tacoma, Wash., has been appointed general sales manager, Western, of American Potash & Chemical Corp. with offices in Los Angeles. He is 38, graduate of U. of California.

Dr. Holzer Promoted; Other Research Changes

Dr. Walter F. Holzer, assistant director of research, Crown Zellerbach Corp., has been promoted to assistant to Vice President of Manufacturing R. O. Hunt. In this newly created position Dr. Holzer will function as liaison between research and manufacturing for most effective utilization of CZ's research and development departments. His residence and office will remain at Camas, Wash., where he had been an assistant director of research.

Dr. Holzer's former duties have been shared by other members of the central research staff, according to Research Director W. W. Moyer. These include Dr. W. M. Heron, assistant director of research; Dr. Kenneth G. Booth, laboratory manager, who relinquished responsibilities as direct supervisor of experimental pulping concurrent with promotion of Dr. J. D. Wethern to chief of experimental section; and Dr. J. S. Barton.

Recent additions to the central research staff include Dr. David W. Goheen, chief of chemical research section; Robert E. Linde, pulp and paper research; Lathan H. Collins, chemical engineering; Richard Watt, experimental pulping; Charles S. Evans and James H. Milliken, both transferred from CZ West Linn mill as experimental pulping technicians; Robert Tacheron, paper products development and Henry Captein, experimental pulping.

The advertisement features a black and white photograph of a Nash vacuum pump mounted on a King of Spades playing card. The card is placed on a surface with other cards, including a Queen of Hearts and a Jack of Spades. The pump is a compact, cylindrical unit with various ports and a mounting bracket. The background shows the texture of the cards and the edges of other playing cards.

**ONLY NASH VACUUM PUMPS
HAVE ALL THESE FEATURES**

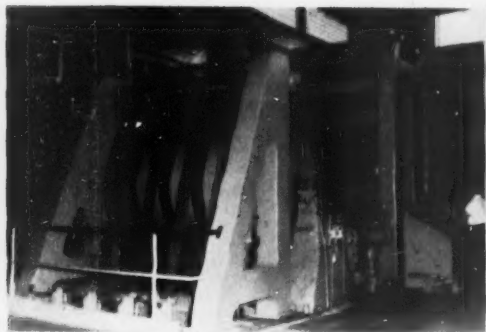
- One Moving Element. Non-pulsating Vacuum.
- No Internal Parts In Wearing Contact. No Internal Lubrication. Handles Liquid With Air.
- No Expert Attendance. Constant Efficiency.
- Low Maintenance Cost.

Plus—

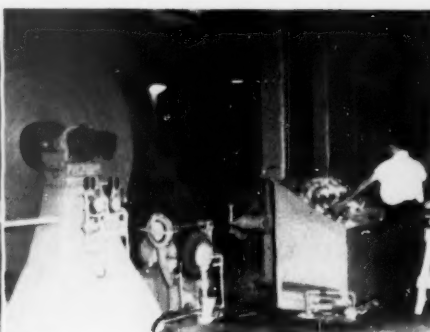
NASH ENGINEERING COMPANY
410 WILSON AVE., SO. NORWALK, CONN

STREAMLINING AT CROSSETT

IMPROVED COUNTER ROLL PRODUCTION -- ALSO SHIPPING



Left—VIEW OF PARENT ROLL (belt driven) and control stand installed at Crossett Mill. Beloit-Reliance-Crossett combined in engineering.



Middle—CLOSER VIEW OF UNWIND stand and control at Crossett Paper Mills.



Right—VIEW OF COUNTER ROLL from Crossett's parent roll installation. Here set of counter rolls is just going off.

Two major installations designed to eliminate intermediate steps in producing counter rolls and other products for the market has been successfully demonstrated at Crossett Paper Mills, Crossett, Ark. One of these is a big cutter, the other a counter roll winder, both of which can accept an 18-20 ton parent roll of paper direct from the machine reel.

The counter roll winder was developed through the joint efforts of Beloit Iron Works, Reliance Electric & Engineering Co., and Crossett company engineers.

An essential principle of the installation is that because of the weight of the roll of paper, the counter roll end follows instead of leads in the operation. The winder is designed to accelerate from zero to 4000 RPM and back to zero in 40 seconds, actual performance time, however, is related to the weight of paper being handled. Both regenerative and mechanical braking with air brakes is provided, and the drums have specially designed bands.

The tie between the unwind stand and winding drum is both electrical and mechanical. There are two 75 H.P. Reliance motors on the winding drum and one 50 H.P. drive on the unwinding roll. Application of turning force to the big paper roll involves use of belts against the roll itself.

The installation is used by Crossett to run 9-inch counter rolls, but it is capable of winding rolls up to 5-foot size.

In acceleration, the increase in speed is constant, i.e. a straight upward inclined line. When the roll hits a limit switch at 8½-inches diameter of the counter roll, the speed is levelled off under the effect of regenerative braking. When the counter roll reaches just below the 9-inch mark, a second limit switch causes the air-brakes to function, bringing the roll to a stop through quite rapid deceleration.

The installation is equipped with electronic panel which, with the V*S drive was furnished by Reliance. This includes a 250-KW D.C. generator designed to carry a 200-percent overload. It is rated at 1200 R.P.M. but can carry full load down to 900 R.P.M.

In designing to keep the surge off the power plant, the generator is outfitted with a 5-ton flywheel composed of two discs of five foot diameter. In full acceleration the winder draws about 480 KW's and the motor tends to slow down under the load but the flywheel's inertia is used to maintain the desired speed. When the load peak passes, the motor picks up and works to restore the flywheel back to top speed and its stored energy, ready for the next set. Each set of counter rolls requires an average one minute and 17 seconds in production.

In order to standardize the parent rolls so they could be used on either counter roll winder or cutter, a new Beloit reel

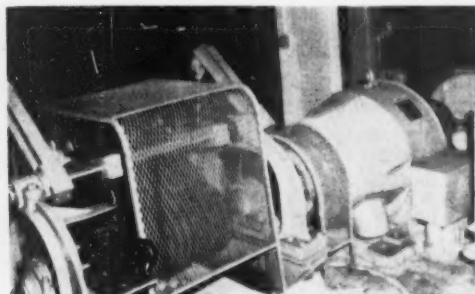
was installed on the older paper machine so both machines now have Beloit reels.

New Improved Shipping Facilities at Crossett

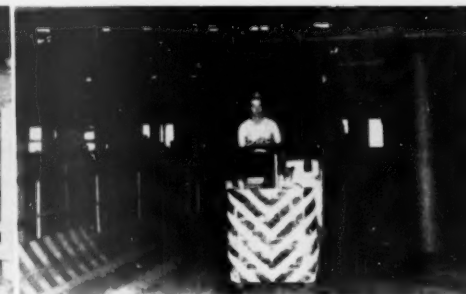
Efficient all-weather loading out is being effected by Crossett Paper Mills, Crossett, Ark., as the result of a new carefully designed shipping dock now in completion stages. The new dock serves to separate types of shipments and minimizes both hand labor and use of lift trucks. The dock is of concrete, car door height, with structural steel frame and Transite walls and roof.

The roof, at its widest, is 86 feet. It shelters three railroad tracks and two loading sections, the widest 34 feet and the other 12 feet. It nestles to the paper machine building so that a short platform 280 feet long and 12 feet wide is reached directly and serves for loading out counter rolls and flat stock. This platform is at the roof edge, with its switch track on the inside.

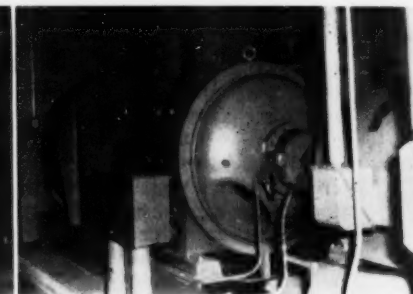
The second, adjacent track extends along the side of the paper machine building and between it and the third track is the 34-foot wide 472 foot long platform for shipping converter rolls. To reach this, rolls come down from the finishing room on an automatically unloading delevelator. A short incline at unloading give the rolls



Left—GLIMPSE OF PART of RELIANCE drive at Crossett. Tie between unwind stand and winding drum is both electrical and mechanical.



Middle—YALE & TOWNE fork lift truck delivers parent roll direct from Crossett's new Beloit machine to direct counter roll winder.



Right—FLYWHEEL OF RELIANCE GENERATIVE set (encased) shows at far end here. In center is Reliance 250 KW. DC. generator for counter roll-parent roll drive.



TENAX FISHING AWARDS FOR 1952

The entries are all in, the Judges have made their decision, and the prizes have been sent to the skillful fishermen who were the winners.

Over 200 entries were received and since only the largest were sent in, this is some kind of a record.

The winners were 16 First Prize, 15 Second Prize, 11 Third Prize.

THE NATIONAL GRAND PRIZE, a 10 h.p. Johnson Outboard Motor, was won by Harry W. Bare, Sinking Spring, Pennsylvania, an employee of the Acme Paper Board Division, Federal Paper Board Company, Reading, Pennsylvania. His entry, a 16½ pound Large Mouth Bass.

The all-time world record for this species is 22 pounds, so Mr. Bare is to be congratulated for his outstanding feat.

Every person who entered a fish in this contest will receive a Tenax Fishing Contest Award pin to show he is a member of this exclusive group. In the near future Lockport Felt will issue a brochure of this year's contest in detail. All of the winners and their catches will be listed. Also details of the 1953 Tenax Fishing Contest.

Here's to Bigger Fish in 1953.

LOCKPORT FELT COMPANY

SOLE MAKERS OF TENAX PAPER MAKERS FELTS • NEWFANE, N. Y.

February 1953

115



Pacific Coast Supply Company

1116 PUBLIC SERVICE BUILDING
260 CALIFORNIA STREET

PORTLAND, OREGON
SAN FRANCISCO, CALIFORNIA

enough impetus to pass over a connecting platform built on an old Ashley, Drew & Northern railroad car frame and to reach a Williams & Wilson floor level conveyor extending down the center of the 472 foot length. (The A.D. & N. RR is a local subsidiary of Crossett Lumber Co.)

When the converter roll reaches a point opposite the box car into which it is to be loaded, it is picked up and brought into the car with a fork lift truck. The platform width is designed to minimize turning motions by the truck. To promote efficiency and provide safety with the railroad car, the platform is provided with a pair of spotlights on a frame that travels on an overhead trolley. A light hand line suffices to move it to a position opposite a car door from which the interior may be perfectly illuminated.

The unusual feature of having the connecting platform spanning the spur track along the building mounted on wheels is planned to prevent possible interference

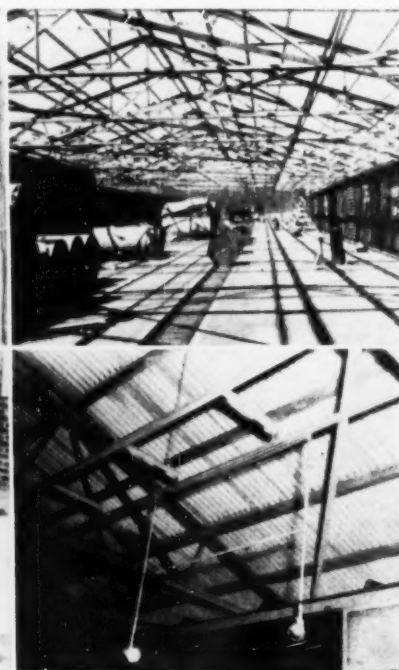
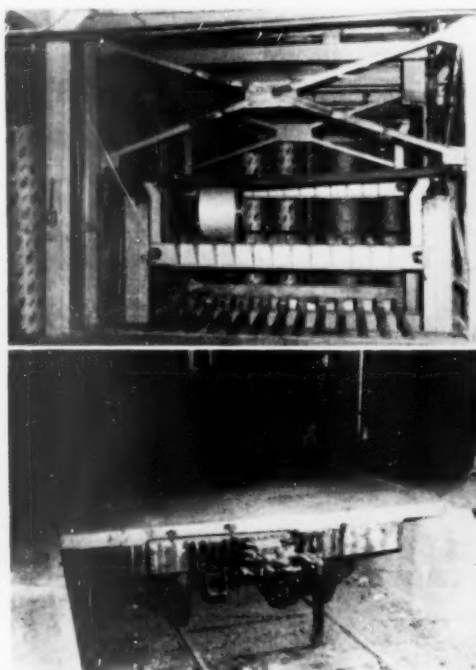
with shipping operations should a mistake in distance or speed, or some other cause, send a car crashing into the platform. A fixed platform might be crushed, severing the major shipping dock from the source of paper. On wheels, the platform would tear from its moorings and probably give as much ground as necessary. Also, should it be desirable, the platform could be moved, permitting a car to be spotted at the big doorway.

Hansel Barkers Go In Southern Mills

Rayonier Inc., has ordered a Hansel pulpwood barker for its mill at Jesup, Ga., and as a preliminary to installation the machine is to be delivered by Hansel Engineering Co., Vancouver, B.C., to Rayonier's mill at Shelton, Wash., for a test run. The barker is designed to process 35 cords of Southern hardwoods daily.

The organization is putting in two barkers at Kirby Lumber Co. in Houston, Texas, and is designing the whole woodroom there.

Top Left—CONVERTER ROLLS come down this WILLIAMS & WILSON Delevelator from Crossett Paper Mills finishing room and are rolled out of building, by slight elevation. Lower Left—PASSING THROUGH BUILDING door converter rolls at Crossett are rolled across this intervening platform mounted on old railroad car that stands on switch track flanking paper mill. Top right—CROSSETT'S CONVERTER ROLLS reach this Williams & Wilson conveyor that extends down center of 472 foot long dock. They are removed when opposite railroad car door. This is view of far end before roof was completed. Lower right—TO PROMOTE EFFICIENT CAR LOADING and safe working conditions at Crossett mill, two spotlights on movable frame can be spotted in front of open door and completely illuminate interior. The frame is drawn along overhead trolley by hand line.



How to make packings last longer

Tips by Johns-Manville Engineers to help you keep production rolling



The old packing gives the clue to most packing failures...



Too much gland pressure did me in. Badly deformed rings next to the gland follower, with bottom rings in fair condition, suggest excessive gland pressure or improper installation. Excessive gland pressure sometimes causes packing to extrude between follower and rod or shaft.



I was ruined by shaft misalignment. When old packing shows excessive reduction in cross-section directly beneath rod, shaft or plunger, bad alignment is indicated. Leakage usually occurs around top of shaft or rod. Cause may be worn bearings which permit shaft to whip.



Lack of lubrication made things too hot for me. If the wearing faces of the rings are dried out or charred, with the rest of the packing in usable condition, the trouble probably is lack of lubrication. Excessively high operating temperatures and wrong type of packing can cause similar symptoms.



I'm worn out because I turned with the shaft. Unusual wear on the outside circumference of the packing almost always indicates one of two conditions. The rings may be binding on the shaft and rotating with it, or the packing is too loose in the stuffing box and moving with the rod.



For all around paper mill use Johns-Manville Interlocked Rod Packing—Style No. 253

This is the universal paper mill packing—a process pump packing that is excellent for all around use in the paper mill. It has proved its superiority for packing Jordans and similar processing equipment. It is specially designed for service with water, washed and unwashed pulps, white water, and stock.

Because Interlocked is braided square, it lasts longer, has a better contact area and makes a tight seal with minimum gland pressure. Interlocked Style No. 253 is impregnated with a special lubricant that will not stain stock and is furnished ungraphited.



Your distributor will help, too! Your J-M Packing Distributor can help you take the guesswork out of packing problems. He carries complete stocks of Johns-Manville quality packings and can supply you promptly. For the address of the J-M Packing Distributor nearest you, write Johns-Manville, Box 60, New York 16, N. Y.



Johns-Manville PACKINGS & GASKETS

New Texas Mill

(Continued from page 30)

enabled printers to keep up with Time Inc.'s rapidly expanding production needs.

Mr. Stillman joined Time Inc. in 1928 and within a few months was named assistant treasurer, responsible for accounting, the security portfolio and other financial matters. In 1930 he was elected treasurer of the corporation; in 1939 he became a vice president; in 1948 he was appointed to the board and in 1949 was appointed executive vice president for financial and manufacturing operations.

Mr. Stillman was born in New York, Jan. 5, 1904, and was graduated from Phillips Academy at Andover, Mass., in 1922, and Yale University in 1926. He is president and director of the Henry Luce Foundation; a member of the board of governors of St. Luke's Hospital, director of the General Precision Equipment Corporation and a director of Pacific Press.

In 1948, Mr. Stillman was named by

Paul G. Hoffman, Economic Cooperation Administrator, to head the Technical Survey Mission for the China Aid Program. After six months in China he returned to full time duty with the company.

As vice president and secretary of Time Inc., Mr. Brumbaugh is in charge of the production and distribution of all Time Inc. publications. It was under his direction that the new equipment was planned and organized in Time Inc.'s Chicago circulation department to handle efficiently the combined Time, Life and Fortune subscription lists.

He joined Time Inc. in 1933 as head of the accounting department, which at that time consisted of six people. He served as acting comptroller during the years when Time Inc.'s operations were becoming more complex, especially during the birth of Life. In 1936 he was elected assistant treasurer and assistant secretary, and the following year became comptroller. In 1939 he was appointed secretary, and in

1945 was made a vice president. For a two-year period, 1943-45, in addition to his other responsibilities, Mr. Brumbaugh was intemporary charge of all personnel of the company.

He was born in Roanoke, Va., and was graduated from Roanoke College in 1929 and from Harvard Business School in 1931.

K. O. Elderkin Moves To Calhoun, Tenn.

Vice President and General Mgr. Karl O. Elderkin and his staff have moved headquarters to Calhoun, Tennessee, where the new Bowaters Southern Paper Corp. pulp and newsprint mill is being built.

They had previously been maintaining headquarters to Calhoun, Tenn. where the new Bowaters Southern Paper Corp. pulp and newsprint mill is being built.

Michigan School Donors

George N. Carleton, president of Detroit Sulphite Pulp & Paper Co., and the MacSimBar Paper Co. have contributed scholarship endowments to the advisory committee for the pulp and paper technology curriculum at Western Michigan College.

Additional equipment has been donated by Kalamazoo Paper and Sutherland Paper Cos.

Reducing Column Width May Waste, Not Save, Paper

While several newspapers on this continent plan to reduce or have reduced their column width on the theory it will conserve consumption of newsprint, executives of the Canadian newsprint industry are doubtful whether any real advantage will be gained unless the publishers involved work in close co-operation with their supplying mill.

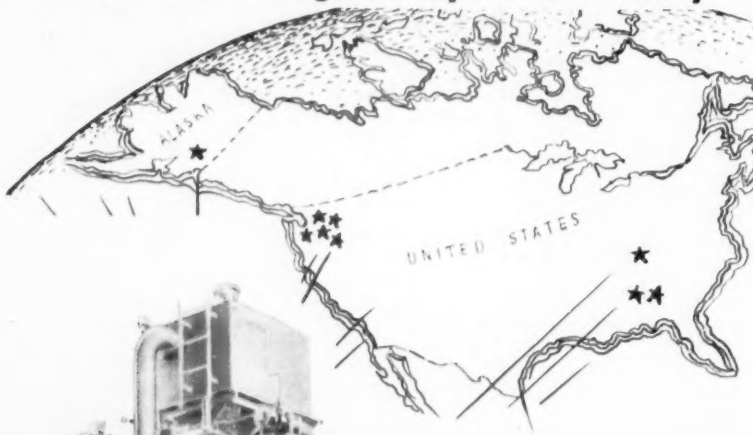
Since few newsprint companies have such a diversity of machine width with which to operate, it follows that the average mill is unable to alter the size of its newsprint rolls to conform with any narrower trim the publisher may stipulate. A certain amount of wastage is bound to result, so that in most cases the aim to save newsprint has just the opposite effect.

To illustrate: Suppose a newsprint machine makes a 192 inch paper roll. It can be cut into three rolls each of 64 inches width, thus attaining perfect trim and maximum use of the paper. But if customers for this mill's paper decide to order 60 inch trim paper, the machine reels off an unwanted and generally unusable strip 12 inches wide that has to be returned to the beaters. It adds up to lost production that cannot be offset by speeding up the machine because the machine is already operating continuously at top speed.

Another Goes to Paper

The modern \$1,500,000 Tillamook County (Ore.) Creamery Association plant was built in 1949 for operation with either glass or paper milk containers. A survey has shown 90% of wholesale and retail customers preferred paper containers so it has switched over 100% to use of Pure-Pak (Ex-Cell-O Corp.) containers. It has 800 dairymen members.

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IN INSTANCE after instance, among pulp mills newly built or expanded for increased production, Washington rapid traverse, automatic cycle control, 1000-ton hydraulic pulp baling presses have the consistent choice. As the sketch above indicates, Washington presses have been selected for outstanding installations extending over a continent-wide area.

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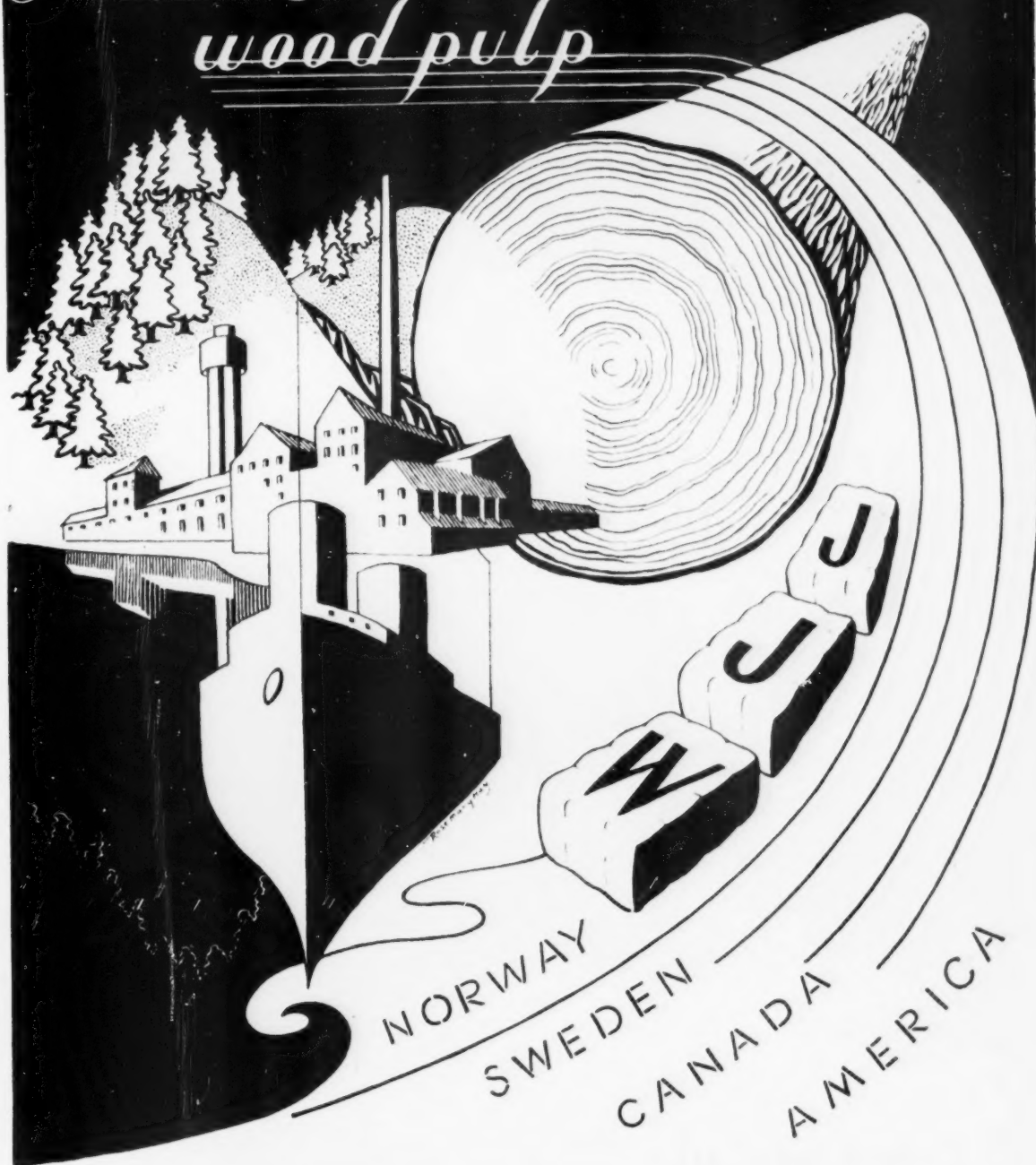
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Pulp and Paper Technologist for expediting challenging research and surveys for converting residue products into pulp. Headquarters San Francisco. Desired age 30 to 40. Salary adjusted for 1-year minimum contract. Write P&P Box No. 141, % PULP & PAPER, 71 Columbia Street, Seattle 4, Washington

WANTED: By cylinder machine mill in Middle West man experienced in selling cardboards and bristols; also laminated items, either board to board, or paper to board. We wish to fill this position at once. Excellent opportunity for right person. Write to P&P Box No. 140, % PULP & PAPER, 71 Columbia Street, Seattle 4, Wash.

Equipment Selected For Dissolving Pulp Mill

So far major equipment orders for the \$26,000,000 pre-hydraulized bleached kraft dissolving pulp mill of Buckeye Cellulose Corp., (Proctor & Gamble) at Foley, Fla., consist of:

Ten Vibrotors and forty Dirtees from Bird Machine Co.; a 180-in. Fourdrinier pulp machine and Kamyr miltistage bleach plant from Sandy Hill, and nine corrosion-resistant digesters by Graver Tank & Mfg. Co. The mill is to start making 100,000 tons a year in late 1953 or early 1954.

Joe Walters is chief project engineer in Cincinnati headquarters. Paul Honey is in charge in Florida. Norman Gibbs is pulp consultant.

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Continuous Digester Builders Visit U.S.

Johan Richter, chief engineer and managing director of Kamyr, the engineering and development firm in Sweden; Gunnar Brohlin, president of Karlstad Mekaniska Werkstad of Karlstad, Sweden, and Knud Dahl, president of A. S. Myrens A.B., of Oslo, Norway, were recent U. S. visitors.

K.M.W. in Sweden, Myrens in Norway and Ö Karhulabruk of Karhula, Finland, are joint owners and sales agents of Kamyr. They visited Sandy Hill Iron & Brass Works, Hudson Falls, N. Y., who make and sell Kamyr equipment in this country, among other places. The first Kamyr continuous digester is operating at Fengersfors kraft mill in Sweden and others are in Italy and France. It is a vertical digester and chips are pumped continuously through it.

Rebuilt Camas Machine

No. 3 paper machine of Crown Zellerbach Corp., Camas, Wash. mill has been rebuilt, including addition of second section press, new suction box, and new creping dryer, according to Frank A. Drumb, resident manager. The changes resulted in upping production and speed—a maximum of 1500 f.p.m.—on this machine running principally on tissue.

Turbines Boost Output At Northwest Paper Co.

Installation of two steam turbines to drive paper machines at the Northwest Paper Co. mill at Cloquet, Minn., has increased production of the machines 12 to 13%, opened the way to much larger production gains in the future, and effected improvements in paper quality. Still another benefit has been reduction in such operating costs as superintendence and maintenance of power equipment.

Mississippi Converter

The American Tube Co. announced plans to construct a new \$400,000 plant at Port Gibson, Miss. The new plant will manufacture spinning tubes, quills and bobbins from treated paper for the textile industry.

MAINTENANCE ENGINEER WANTED

Bleached sulfate pulp and paper mill in Pacific Northwest requires graduate Mechanical Engineer to supervise all maintenance crew and service facilities. Successful applicant should have 7 to 10 years' experience in kraft mill maintenance work and be capable of organizing entire crew and cooperating with production departments. This is a real opportunity and challenge to the man who desires to move ahead with a growing organization. Send resume and salary desired. Write to P&P Box No. 138, % PULP & PAPER, 71 Columbia St., Seattle 4, Wash.

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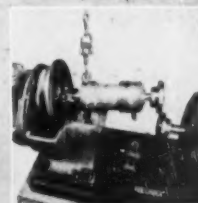
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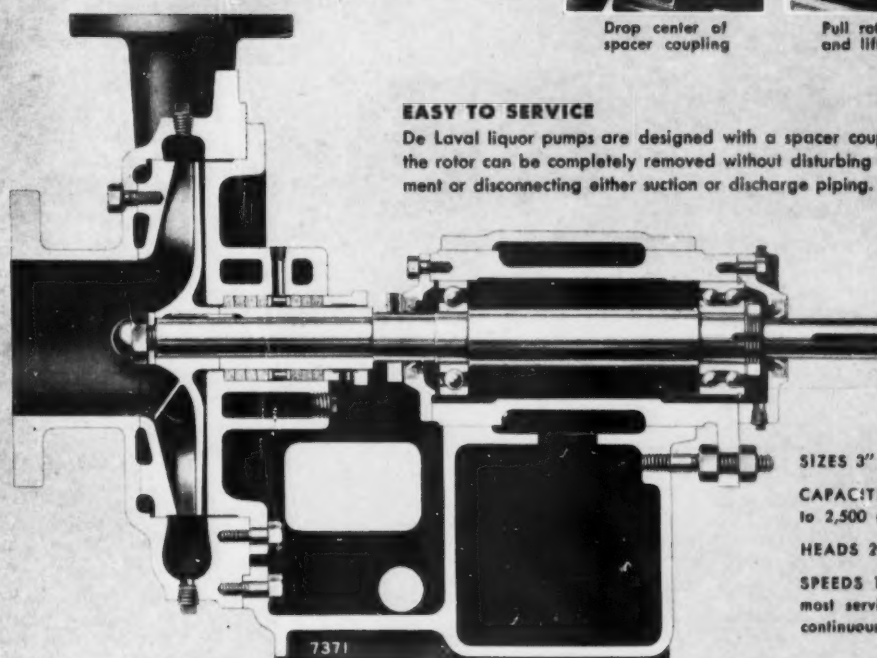
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- nections and inlet and outlet stuffing box cooling connections.
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Write for Bulletin 1100 giving full application and specification data on De Laval pumps for the paper industry.



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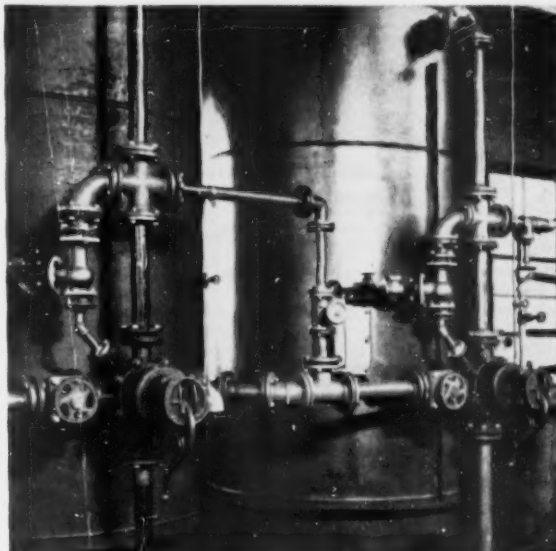
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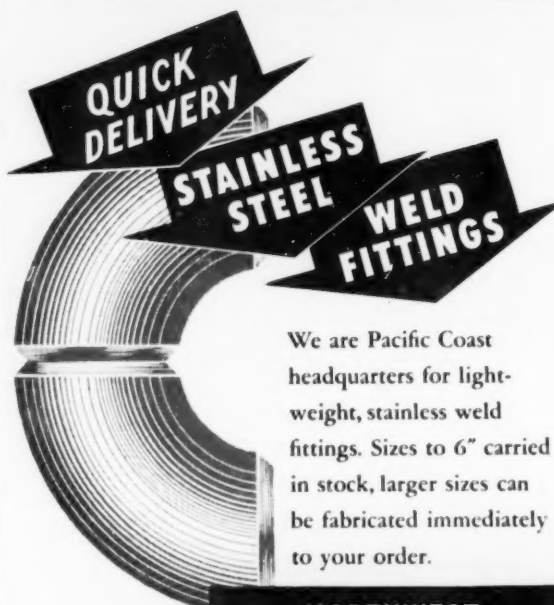
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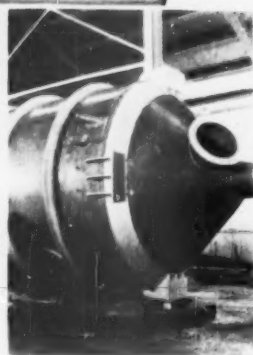


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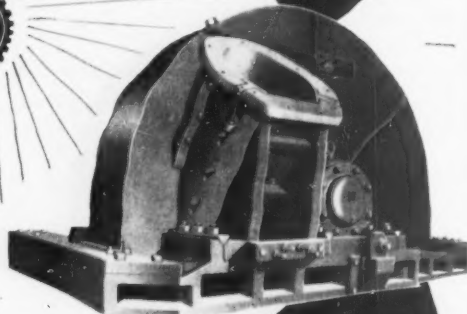
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